EtherneTV®
MEDIA DISTRIBUTION SYSTEM

VBrick
EtherneTV Portal Server

ETV v3.1 Portal Server
Administrator Guide

VBrick systems, inc.®

Copyright

About VBrick Systems

Founded in 1997, VBrick Systems, an ISO 9001 certified vendor, is a privately held company that has enjoyed rapid growth by helping our customers successfully introduce mission critical video applications across their enterprise networks. Since our founding, VBrick has been setting the standard for quality, performance and innovation in the delivery of live and stored video over IP networks—LANs, WANs and the Internet. With over 20,000 video appliances installed across over 1,000 IP networks world-wide, VBrick is the recognized leader in reliable, high-performance, easy-to-use networked video solutions.

VBrick is an active participant in the development of industry standards and continues to play an influential role in the Internet Streaming Media Alliance (ISMA), the MPEG Industry Forum, and Internet2. In 1998 VBrick invented and shipped the world's first MPEG Video Network Appliance designed to provide affordable DVD-quality video across the network. Since then, VBrick's video solutions have grown to include Video on Demand, Management, Security and Access Control, Scheduling, and Rich Media Integration. VBrick solutions are successfully supporting a broad variety of applications including distance learning and training, conferencing and remote office communications, security, process monitoring, traffic monitoring, business and news feeds to the desktop, webcasting, corporate communications, collaboration, command and control, and telemedicine. VBrick serves customers in education, government, healthcare, and financial services markets among others.

Contents

3. Access Control

4. Configuring for SSL

5. Auto Content Ingestion

Index

Preface

This EtherneTV Portal Server Administrator Guide is written for anyone who will be using or evaluating the VBrick EtherneTV Portal Server. This includes system administrators, software developers, network technicians, and others. The ETV Portal Server is a web-based portal for accessing and managing video assets including both live or stored audio and video files. The ETV Portal Server is a key component in VBrick's EtherneTV Media Distribution System. The ETV Portal Server provides a simple, intuitive interface that auto-discovers available media assets in your network. Key components in VBrick's EtherneTV solution include:

- **EtherneTV-NXG Video-on-Demand Server** – Provides all standard Video-on-Demand (VoD) features including support for MPEG-1, MPEG-2, and MPEG-4 for maximum flexibility.
- **EtherneTV-STB Set-Top Box** – Leading edge digital set-top box that provides a low-cost standalone decoder for DVD-quality MPEG-1, MPEG-2, and MPEG-4 videos.
- **VBrick Hardware Encoders/Decoders** – Rugged, reliable video appliances that can reside anywhere on your network to provide either distributed or high-density centralized encoding/decoding of MPEG-1, MPEG-2, and MPEG-4 video.

Organization

Introduction – provides an overview of the application including server and desktop requirements and an overview of features and functionality.

Administration – provides detailed explanations of all ETV Portal Server global settings and configuration options, as well as diagnostics and status windows.

Access Control – explains how to configure the system for access control. It explains how to create users and groups with specific permissions and access to resources.

Configuring for SSL – explains how to securely configure the system using the Secure Sockets Layer.

Auto Content Ingestion – explains auto content ingestion. This is the process whereby video content is automatically populated on the portal server.

Font Conventions

Arial bold is used to describe dialog boxes and menu choices, for example: **Start > All Programs > VBrick**

`Courier fixed-width font is used for code elements (C++, HTML) as well as filenames, directories, etc.`

`Bold Courier fixed-width font is used to indicate user input in keyboard commands, scripts, etc.`

Web addresses are displayed as hyperlinks in the format: http://www.VBrick.com

Italics are used to emphasize specific words or phrases.

Related Documents

The following documents describe key components in the EtherneTV Media Distribution System.

EtherneTV Portal Server User Guide
EtherneTV Portal Server Release Notes
EtherneTV-STB Admin Guide
EtherneTV-STB Quick Start Guide
EtherneTV-NXG 1&2 VoD Quick Start Guide

Printer-Friendly

Click on the following link to print a hard copy of the document. For best viewing, open and resize the document using the magnification box at the bottom of the Acrobat Reader window.

ETV Portal Server Administrator Guide

▼ **To save or print a PDF document:**

1. Click once to open the PDF document in Acrobat Reader.
2. On the **Acrobat Reader** toolbar, click **Save** or **Print**.

Chapter 1

Introduction

Overview

VBrick's EtherneTV Media Distribution System consists of a group of products that includes the EtherneTV Portal (ETV Portal Server), EtherneTV Encoders, the EtherneTV-NXG Video-on-Demand Server, EtherneTV Set-Top Boxes and StreamPlayer software. This integrated system delivers both live and on-demand audio and video over an IP-based infrastructure. The ETV Portal Server functions as a video portal, permitting end users to view live and on-demand MPEG-1, MPEG-2 and MPEG-4 and other streams on a PC, Macintosh, or Set-Top Box. The ETV Portal Server comes as software-only solution that can be installed on a Windows Server or as a pre-configured hardware/software combination.

Downloaded Components

For Windows-based PC users only, ETV Portal Server uses VBrick StreamPlayer software-based components to decode video streams on the user desktop. The Portal Server downloads these components to each user machine the first time you access the Portal Server. No download is necessary for subsequent access. If this is a new installation, you must answer **Yes** to security requests to download these components. The EtherneTV Portal Server may require the installation of up to five components. If you check the box **Always trust content from VBrick Systems Incorporated**, any required components will be automatically downloaded the next time they are needed. You don't have to restart your computer.

The standard method to download these components is by using CABs. When a user connects to the Portal Server for the first time, the CABs are downloaded automatically to the user computer. In certain circumstances however, the use of CABs is not allowed or impracticable. In these cases, VBrick provides an `.msi` installer called `VBrickComponents.msi`. This installer installs the same components and allows end-users who cannot use CABs to gain full Portal Server functionality. This installer is located in the `utils` directory under Portal Server. Go to `Program Files\VBrick\MCS\utils` to run this utility.

Topics in this chapter

Overview

MySQL

ETV Portal Server

Additional ETV Components

Additional Portal Server Components

Portal Server License Files

MySQL

EtherneTV Portal Server is shipped with MySQL™ as the database. The MySQL database is installed as part of the Portal Server installation package. If the hardware/software combination was purchased from VBrick, MySQL will already be installed on your machine; the default user name is `root`. To protect the integrity of the database, you should change the default password (`vbrick_18`) after initial installation and periodically thereafter.

Note   MySQL Query Browser is an Open Source front-end that provides a graphical interface to the MySQL database. MySQL Query Browser is available free of charge under the free software GNU General Public License. Go to http://www.mysql.com for details.

▼   To change the MySQL password:

1. Open a Command Prompt window.
2. At the C: prompt type `cd program files\mysql\mysql server 4.1\bin` and press **Enter**.
3. Type `mysql -uroot -pvbrick_18` and press **Enter**.
4. Type `set password for 'root'@'localhost'=password ('new_password');` (where `'new_password'` in single quotes is the new password) and press **Enter**.
5. Type `exit`.

ETV Portal Server

The VBrick EtherneTV (ETV) Portal Server is a web-based portal for accessing Live and On-Demand audio and video files. A key component of VBrick's EtherneTV Media Distribution System, the ETV Portal Server provides a simple interface to easily locate available media assets on your network. Upon accessing the main portal page, users can navigate or search for specific videos, select the video, and immediately begin viewing up to DVD quality video. For on-demand videos, users can **Fast Forward/Rewind** and **Seek** to specific points in the video. Standard access control functionality provides restriction of certain content to particular users, user groups, or set-top boxes. An optional scheduling module allows users to schedule devices to send video, receive video, record video, or to initiate a two-way conference.
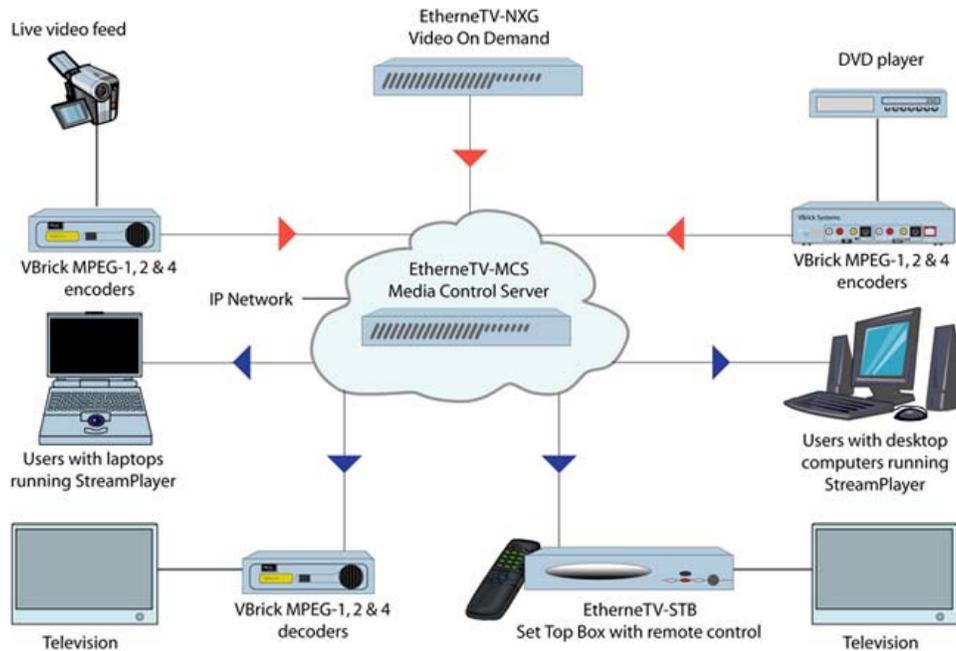
Figure 1. EtherneTV Media Distribution System

Server Requirements

The *minimum* server requirements include:

- Windows 2000 Server or Windows 2003 Server (with Service Pack 1).
- Pentium IV or Xeon Processor 1.26 GHz Minimum (2 GHz or higher recommended).
- RAM 512 MB Minimum (1 GB or more recommended).
- Hard Drive 36 GB Minimum (larger for frequent recording).

Note	VBrick has tested the ETV Portal Server on Windows 2000 Web Server and Windows 2003 Server Web Edition. Note also that ETV Portal Server also will not operate correctly on a server that is configured as a primary domain controller or with other network-related services and software.

Desktop Requirements

Windows-based PC and Macintosh users access the ETV Portal Server through a web browser. For Windows-based PCs, on the first access to the server, VBrick StreamPlayer software is automatically downloaded to the PC. StreamPlayer software lets end users select a stream and view TV-quality video directly on a PC. Macintosh users view MPEG-4 video through the QuickTime player.

Windows PCs

- Windows 98, 2000, XP (SP2) or above. XP SP2 has been tested and is supported.
- 300 MHz Pentium II processor for MPEG-1 streams.
- 500 MHz Pentium III processor for MPEG-2 streams.
- 500 MHz (minimum), 750 MHz Pentium III processor (recommended) for MPEG-4 streams.
- 128 MB RAM.
- SVGA video card 640x480, 256 colors, video card acceleration recommended.
- Windows-compatible sound device.
- Minimum 10 MB hard disk space for installation.
- Microsoft Internet Explorer 6.0 or higher.
- DirectX Media Version 8.1 and higher.

Macintosh PCs

- Mac OS X with Safari 1.0 (or higher) or FireFoX for Mac 1.0.4; QuickTime Player 6.0 or higher. (Internet Explorer is no longer supported.)

End User Features

- Simple, intuitive user interface and unified portal for live and on-demand streams.
- Windows-based PCs, Macintoshes, or STBs (connected to televisions or display monitors) can all access the Portal Server. Mac support is for MPEG-4 only.
- Users can view video at **Full Screen** for a television-like user experience.
- Users can view Video-On-Demand assets with full VCR/DVD control, including **Play**, **Pause**, **Stop**, **Fast Forward**, **Rewind**, and **Seek**.
- Video can be viewed in a preview window or launched in an external, re-sizeable player window (PC and Macintosh).
- Set-Top Box users can use familiar **Channel Up/Down** keys and other hot keys on the IR remote control to navigate through video listings.
- Users can search through the list of Live or On-Demand videos by **Title**, **Keyword**, **Description**, or other custom fields defined by an ETV Portal Server administrator.
- Users can record and store videos on the EtherneTV-NXG Video-on-Demand server via ETV Portal Server.
- Users can publish pre-recorded content and thumbnails directly to the EtherneTV-NXG Video-on-Demand server.
- Users can view closed caption text (Windows-based PCs and set-top boxes only).
- Users can launch pre-configured emergency broadcasts. (Optional. Requires Scheduling module.)
- Users can schedule future recordings or broadcasts. (Optional. Requires Scheduling module.)

Administrative Features

- Access Control - allows administrators to allow/deny access to specific functions of the ETV Portal Server server. Access control functionality can use the local ETV Portal Server database or authenticate to an LDAP directory server.
- Clustering support – multiple EtherneTV-NXG Video-on-Demand servers can be clustered to increase total throughput. The ETV Portal Server will automatically load balance all servers defined in ETV Portal Server; no additional configuration is necessary. See Servers on page 17 for more.
- SSL/TLS security – the ETV Portal Server server can be set up to provide encrypted access to the Administrative pages, the Login pages, or all pages. See Configuring for SSL on page 61.
- Customer defined URLs – can be entered into the system and displayed in the ETV Portal Server interface. The URLs can point to video assets or other assets such as PDFs or PowerPoint documents.
- Autoingestion to the EtherneTV-NXG server – content placed in autoingestion folders on the ETV Portal Server will be automatically transferred and ingested into the EtherneTV-NXG server.
- Customized global messages can display on the ETV Portal Server interface.
- Channel numbers can be assigned to live streams.
- Define a startup channel for STBs – the STB will automatically tune into this channel when users select the **Live TV** option.
- Emergency broadcasts – can define pre-configured emergency broadcast templates that can be launched instantaneously. See Emergency Broadcast on page 32 for more.
- Status window – shows the status of videos being added, recorded, or ingested.
- Diagnostics window – displays a complete log of system events by source, time, and IP address.
- Custom fields and streams – the ability to add customized information and search parameters to live and stored streams.

Additional ETV Components

EtherneTV Video-on-Demand Server

The EtherneTV Video on Demand (VoD) server provides the ETV Portal Server with a list of available video content organized in folders. The VoD content is displayed on the ETV Portal Server, along with the duration of the video and associated descriptions, key words, and other custom information entered by an administrator. The user plays content from the VoD server by selecting it by program name from the ETV Portal Server interface. The ETV Portal Server currently supports NXG and VOD-W on demand servers. The configuration is essentially the same (see Servers on page 17) and there is no difference in functionality for end users.

EtherneTV-STB Set-Top Box

EtherneTV-STBs access the ETV Portal Server through a web browser within the Set-Top Box. Using the Set-Top Box remote control, users can navigate and search for specific on-

demand content or live video streams, select a stream, and begin viewing television-quality video. Set-Top Box users can also record video directly on the ETV Portal Server using the remote control or the wireless keyboard.

VBrick Encoders/Decoders

VBrick's VB4000-5000-6000 Series MPEG-2 network video appliances provide DVD quality video and CD quality audio at 1–15 Mbps of bandwidth. MPEG-2 is the world's most popular digital compression technology and is used to encode DVDs as well as Digital Cable and Digital Satellite broadcasts. VBrick's VB4000-5000-6000 Series MPEG-4 encoders and decoders are versatile and reliable video appliances for one or two-way interactive communications over low or medium bandwidth IP networks. The VBrick MPEG-4 encoder/decoder can be used for webcasting, multicasting, transcoding, and two-way interactive video. Designed for streaming over the Internet at lower bit rates (56K, 128K, 384K0 and over a LAN at higher rates (1Mbps and above).

Additional Portal Server Components

The ETV Network Video Recorder and the ETV Live Portal Server are optional components that are purchased and installed separately. They have different license files that must be installed separately. See Portal Server License Files on page 7.

ETV Network Video Recorder

The ETV Network Video Recorder lets you off-load all recording tasks from the ETV Portal Server machine to a separate "recorder server" machine. This optimizes recording performance as well as ETV Portal Server performance. The Network Video Recorder uses ETV Portal Server components and requires two machines: the ETV Portal Server is installed on one machine; the Network Video Recorder software is installed on a different machine. Once installed, the NVR machine is used for all ETV Portal Server recording tasks. The NVR has no GUI and runs continually as a background service. You simply install the NVR software and change the Recorder Server configuration to match the new server. See the *ETV Network Video Recorder Release Notes* for more details and installation instructions.

| Note | A standard ETV Portal Server permits two concurrent recording operations. If you purchase and install a Network Video Recorder, the number of concurrent recording operations is fixed by the terms of your licensing agreement with VBrick. |

ETV Live Portal Server

The ETV Live Portal Server provides ETV functionality that is limited to scheduling and viewing live streams. It does not integrate with a VoD server and there is no functionality for browsing the video library.
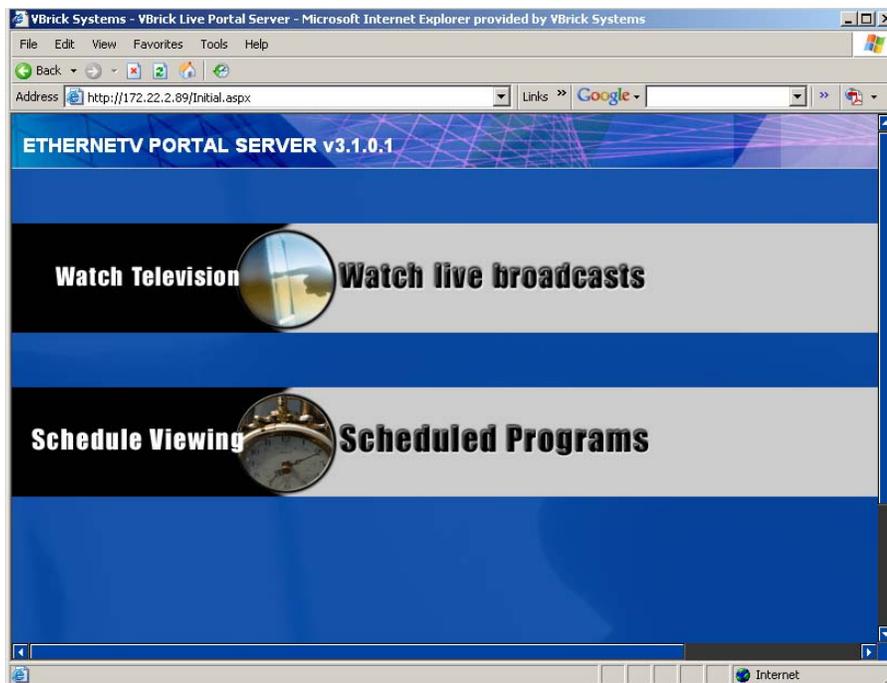
Figure 1. Live Portal Server User Interface

Portal Server License Files

You are prompted to install a license (`.lic`) file as part of the ETV Portal Server installation process. Different Portal Server functionality is available depending on the type of license you purchase and install. (For example if you do not install a Scheduler license, you will not see a "Scheduled Programs" option in the Portal Server client application.) After initial installation you can install a different license as necessary by using **Add or Remove Programs**.

▼ To install or modify a Portal Server license file:

1. Go to **Start > Control Panel > Add or Remove Programs > VBrick Media Control Server Suite**.

2. Click **Change/Remove** and select the appropriate license file type (see below).

3. Click **Next**, then browse to the file and click **Open**.

4. When done, manually close the window and launch the application. There is no need to restart the host machine.
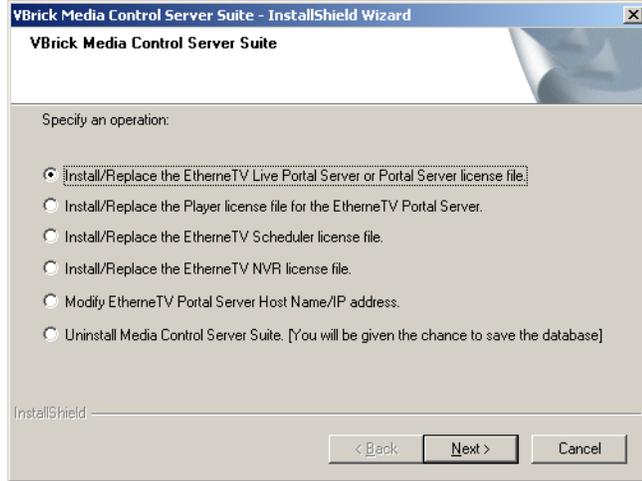
License File	Description	License Errors
Live Portal Server or Portal Server	Either a standard ETV Portal Server license file or a Live Portal Server (see ETV Live Portal Server on page 6.) license file.	If not installed, error page displayed at login.
Player	The embedded Windows Media Player has restrictions on the number of licensed users. Use this option to select a license file that modifies the number of allowed users for various MPEG-1, MPEG-2, and MPEG-4 streams.	If not installed, a popup message is displayed when you try to launch a stream.
Scheduler	Enables the broadcast or recording of future events. See the *ETV Portal Server User Guide* for more information.	If not installed, the Add option will not be shown on Scheduler page.
Network Video Recorder	A Network Video Recorder is a standalone recorder option that can speed up recording operations and/or enhance Portal Server performance. (See ETV Network Video Recorder on page 6.)	If not installed, there will be a "record" failure for more than two concurrent record requests.
Modify Host Name or IP Address	Lets you auto-detect or manually change the Portal Server Host Name. This name must match the machine name on which ETV Portal Server is installed. If you change the host machine name, use this option to change the Portal Server Host Name.	Not applicable.
Uninstall Media Control Server Suite	Remove all ETV Portal Server components. You are prompted to save the database as desired.	Not applicable.

Administration

Overview

The ETV Portal Server can be administered from Windows-based PCs using Internet Explorer 6.0 or higher. The Administrative pages are best viewed at 1024x768 resolution. Administration is not supported from Macintoshes or Set-Top Boxes.

Topics in this chapter

Administrator Login

In order to access the administrative functions enter the following address in the Internet Explorer browser of the PC where `myserveraddress` is the host name or IP address of the ETV Portal Server . The session will timeout after 20 minutes of inactivity. `admin` is both the default user name and password.

`http://myserveraddress/admin/`

Note   As a standard best practice, VBrick recommends changing the default administrator User Name and Password.

Administrator Options

Login to the ETV Portal Server Admin pages with a valid user name and password to display the following window. This window provides access to all admin configuration options.
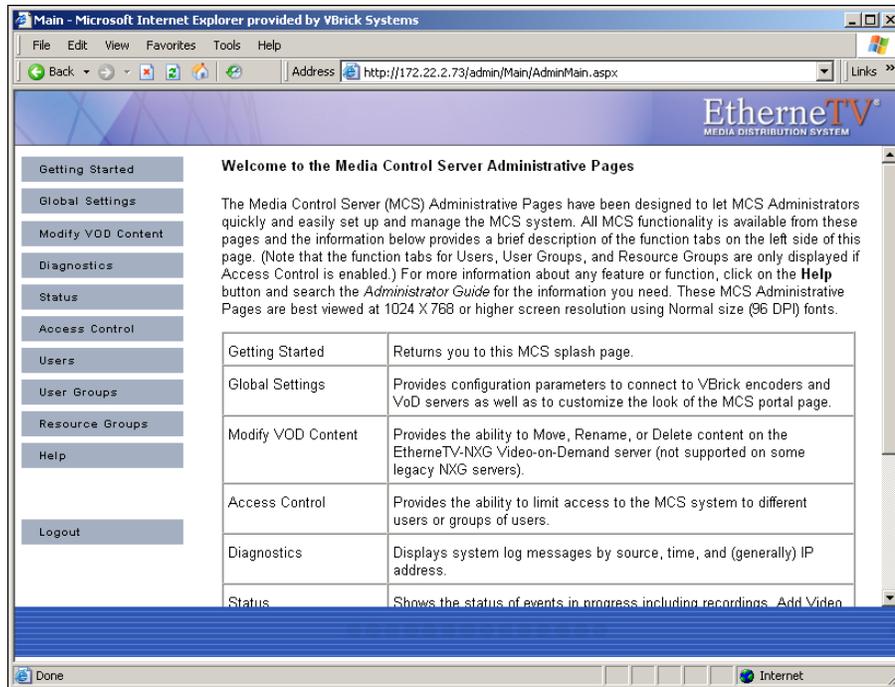
Table 1. Administrator Options

Option	Description
Getting Started	The ETV Portal Server splash page shown above.
Global Settings	Provides system-wide configuration parameters to connect to VBrick encoders and VoD servers as well as to customize the look of the ETV Portal Server pages.
Modify VOD Content	Provides the ability to Move, Rename, or Delete assets on the EtherneTV-NXG Video-on-Demand server. (Not supported on some legacy NXG servers.)
Diagnostics	Displays system log messages by source, time, and (generally) IP address.
Status	Shows the status of events in progress including recordings, Add Video commands, ingestion to the NXG server, and FTP downloads.
Access Control	Provides the ability to limit access to the ETV Portal Server system to different users or groups of users.
Users†	Used in conjunction with Access Control to limit access to the ETV Portal Server system to different users.
User Groups†	Used in conjunction with Access Control to limit access to the ETV Portal Server system to different groups of users.
Resource Groups†	Used in conjunction with Access Control to group resources which can then be provided to users or user groups.
Help	Displays the ETV Portal Server online help system in a new window.

Option	Description
Logout	Logs out the user who is currently logged in.

† Users, User Groups, and Resource Groups are only displayed if Access Control is enabled. See Access Control on page 45 for a description of these functions.

Global Settings

Global Settings include configuration settings and parameters that apply to the entire system. Global Settings include:

Global Assignments

Custom Fields

Customize Streams

Servers

VBricks

Set Top Boxes

Recorders

Script Devices

Scripts

Emergency Broadcast

Global Assignments

Global Assignment are listed below. Most are self-explanatory and consist of text boxes where you enter appropriate values.
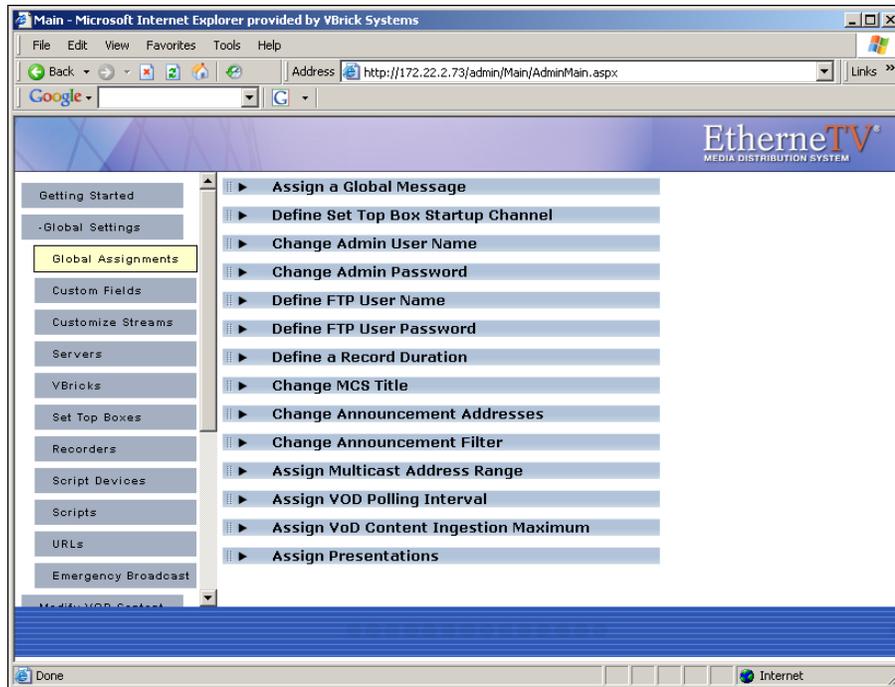
Table 2. Global Assignments

Function	Description
Assign a Global Message	The global message will be displayed in the message area of the Portal Server user interface, when there is no program information available. Enter the message text and click Submit. Example: *There will be an all hands meeting today at 4:00 p.m. in the boardroom.* Note that if you are running the Portal Server on a Set Top Box, the message area will not display more than 4 lines of text.
Define Set Top Box Startup Channel	When an STB (in ETV Portal Server Start mode) accesses the "Watch live broadcasts" page, it can be set to automatically play a defined channel in the Preview Window. Highlight that channel from the list and click Submit. If there are no channels listed, channels must first be defined as Customized Live Streams.
Change Admin User Name	Change the default admin user name of `admin`.
Change Admin Password	Change the default admin password of `admin`.
Define FTP User Name	ETV Portal Server is defaulted for "anonymous" FTP access, which is configured in Windows IIS Default FTP Site. If a more secure FTP access is desired, the User Name can be changed in IIS (please reference the Windows Server documentation for instructions on how to change the FTP User Name). The same User Name should be entered here.

| Function	Description
Define FTP User Password	ETV Portal Server is defaulted for "anonymous" FTP access, which is configured in Windows IIS Default FTP Site. If a more secure FTP access is desired, the Password can be changed in IIS (please reference the Windows Server documentation for instructions on how to change the FTP User Name). The same Password should be entered here.
Define a Record Duration	Applies to the on-demand **Record** pushbutton only (not to scheduled recording). Defines the maximum duration (default 120 minutes) allowed for a continuous recording. Maximum record duration limited only by size of hard drive.
Change Portal Server Title	Changes the text that is displayed on the upper left hand corner of the Portal Server User Interface.
Change Announcement Addresses	*Changing these from the defaults is highly discouraged and should only be done if advised by a VBrick technician or Network Administrator.* Changes the multicast address on which Announcements (SAPs) are received. By default all VBrick devices are set to the same addresses and ports as the defaults in ETV Portal Server. These have to match on all devices for proper functionality.
Change Announcement Filter	Filters SAP announcements so that only the specified IP addresses are shown in ETV Portal Server. Wildcards are allowed. For example 255.*.*.* displays only those addresses in the range 255.0.0.0 – 255.255.255.255.
Assign Multicast Address Range	Defines the current multicast IP address range and port range. The default multicast IP range is 225.1.1.0 – 239.128.255.255. The default port range is 1040 – 65534.
Assign VOD Polling Interval	Not generally changed. Defines the interval at which the Portal Server polls the NXG server(s) for new content (default 120 minutes). This is only used to poll for content added to the NXG from an interface *other than ETV Portal Server*. When adding a server, use Sync Now to sync the program listings on the client Browse Video Library page with the content on the new server.
Assign VoD Content Ingestion Maximum	Defines the maximum number of simultaneous video files that can be ingested to the NXG Video-on-Demand server. The default is set to 2. Increasing the default may increase the speed at which files will be transferred to the NXG server, but may result in playback issues from the NXG Video-on-Demand server. VBrick recommends keeping the defaults.

Function	Description
Assign Presentations	The Presenter is a VBrick multimedia presentation application that can be launched from the Portal Server. This field defines the directory where presentations are stored. If this folder is present and contains a valid `index.asp` file, View Presentations will be shown as a option on the Portal Server Home page and will launch the Presenter in a separate window.

Custom Fields

Custom fields are used to add additional fields to the Info 📷 pages associated with stored videos and live broadcast streams. All stored videos, and those live streams that have been "customized," have an Info icon. By default, the Info page has fields for **Description** and **Keywords**. The Custom Fields funtionality lets you add additional "custom" fields that are appropriate to your business or application. This lets you provide more information on the page and it also makes it easier to search for specific streams. (All defined fields are listed in the dropdown list box next to the **Search** button.) When you add a custom field using this function, the field is available to administrators as a selection in the **Customize Streams** window. It is also available to end users as the **Modify Info** button on the Info pages associated with stored videos (if they have content publishing permissions).

▼ To create a Custom Field:

1. Go to **Global Settings > Custom Fields**.
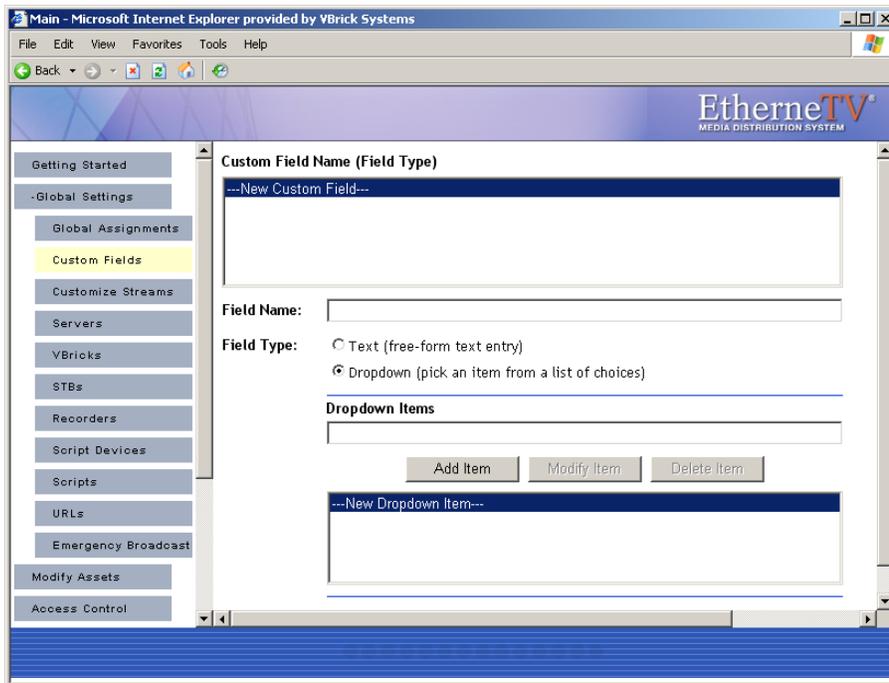
2. Enter a **Field Name** and a **Field Type**. If you select **Dropdown**, you can add items one at a time followed by **Add Item**. These items will populate a dropdown list box on the **Customize Streams** page.

3. When done, click **Add Custom Field**. The field will be added to the panel at the top of the window; it will also be available as an option when you are customizing a stream.

Custom Field Name (Field Type)	This panel shows the existing custom fields that have previously been defined.
Field Name	The field name you want to display on the Info page for this stream or video.
Field Type	This determines how the field will be displayed on the **Customize Streams** page, either as a text field or as a dropdown list box.

Customize Streams

Customizing streams refers to changing the way live streams are displayed in the ETV Portal Server. (VoD streams are customzed by end users rather than by administrators.) Customizing a live stream allows you to change the displayed **Program Name**, assign a **Channel** number, and enter a **Description** that displays in the **Messages** area of the window. You can also enter **Keywords** for searching, and values for any custom fields that have been defined (see Custom Fields above).

The ETV Portal Server auto-discovers live streams on the network by listening for announcements, also known as SAPs (Session Announcement Protocols). On a network with many live streams, the administrator can keep the stream list organized by assigning channel numbers. This also provides an environment for end users that is similar to television.

▼ To customize a stream:

1. Go to **Global Settings > Customize Streams**:
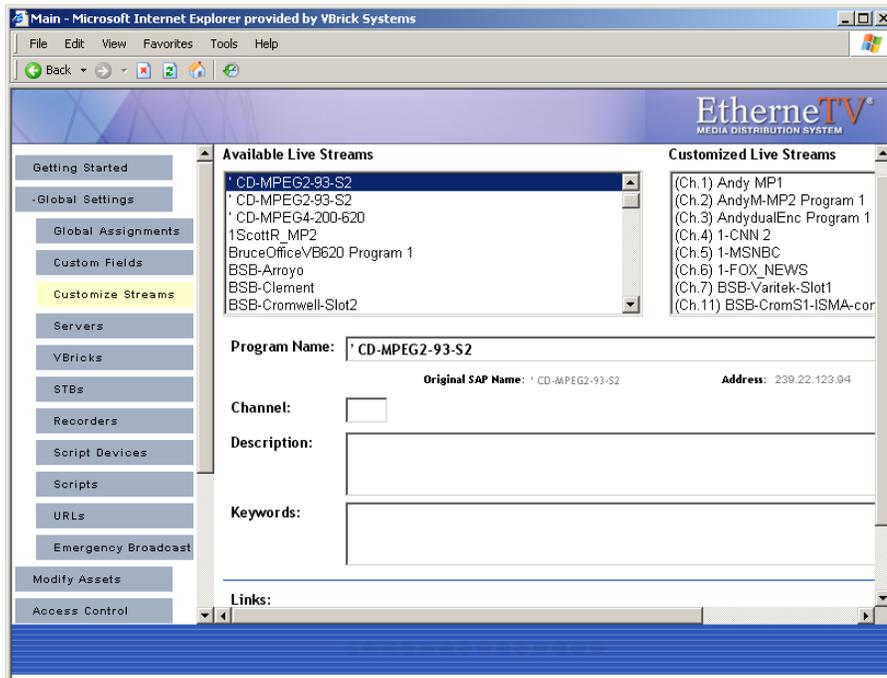
2. Choose an **Available Live Stream** (one that has not been customized), enter an optional **Channel** number, and click **Add Customization**. This moves the customized stream to the panel on the right.

3. Optionally, add a **Description** of the channel that will be displayed in the **Messages** area on the broadcast list page and on the **Info** page.

4. You can also add **Keywords** and **Links** (see below) that are displayed on the **Info** pages associated with a stream. They make it easier to search for specific content.

Program Name	Required. Name that will display in the directory of Live Broadcasts.
Channel	Optional. Unique number that will display in the directory.
Description	Optional. Description that will display on the Info page.
Keywords	Optional. Enter each searchable keyword(s) separated by commas or spaces.
Links	Optional. Add hyperlinks that will display on the Info page.

Add Link

This feature lets you add a hyperlink to the page you get by clicking the Info icon associated with each live stream.

▼   To add a link to a customized stream:

1. Highlight a stream in the **Customized Live Streams** panel.

2. Click **Add New Link** and enter a **Link Title** and **Link Type**.

3. Click **Add Link** when done. Repeat as many times as necessary.
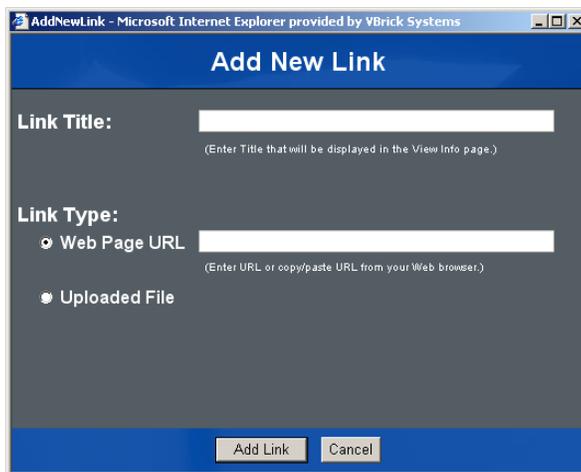
| Link Title	The title actually displayed on the Info page, for example "Additional Information."

Administration

Link Type	• Web page URL – Enter a valid URL or copy and paste one from your web browser. • Uploaded File – Browse to select an upload file. This can be a PowerPoint, an image, or any file you want to make available to end users. The file is automatically uploaded to the Portal Server, and the Portal Server creates a URL for end users to access it.

Servers

Use the **Servers** page to add/modify VoD servers or to add/modify VoD content folders. Note that you can cluster multiple servers to increase throughput. The ETV Portal Server will automatically load balance all servers defined on the **Servers** page; no additional configuration is necessary. *If there are multiple servers configured, ingested content is written to all the servers for which a user has access.*

Add/Modify Video On-Demand Servers

Add one or more EtherneTV-NXG Video-On-Demand Server(s) to the system. If the network supports Windows 98 users, you *must* use the IP address of the On-Demand Server—not the host name.
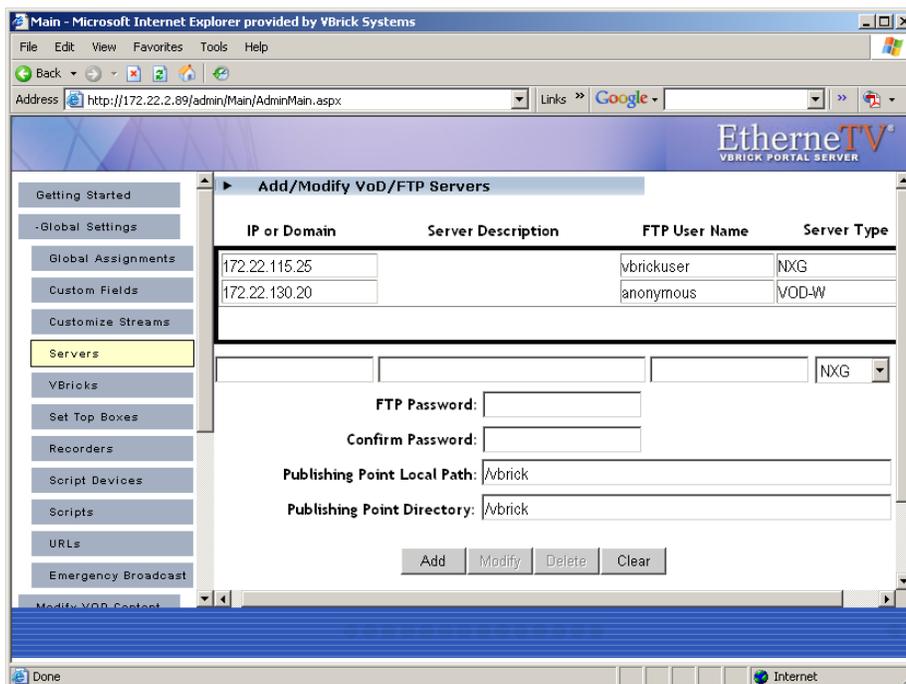

IP or Domain	This is the IP address or Host Name of the On-Demand Server. The Server Name or IP address entered into the ETV Portal Server must be accessible by the ETV Portal Server. (If the network supports Windows 98 users, you *must* use the IP address.)
Server Description	This allows the administrator to define a descriptor such as location.

FTP User Name	This is the FTP user name that the Portal Server Server uses when publishing content to the server. This FTP User is `vbrickuser` by default. If nothing is entered, the Portal Server will automatically use `vbrickuser`. This refers to a user account that already exists on the server. If the FTP User Name is changed on the NXG server, it must be changed here as well.
Server Type	• NXG – Kasenna VoD server. • VOD-W – InfoValue VoD server. • FTP – Use FTP only if you want to copy from the Recorder server to another FTP server in which case it records to `ftp:\root`.
FTP Password	This is the FTP password that corresponds with the FTP user above. The password is `vbrickuser` by default. If the FTP Password is changed on the server, it must be changed here as well.
Publishing Local Path	Maps the Publishing Directory to the physical location on the VoD server.
Publishing Directory	Used for Add Video, FTP, or Record. The logical path to a folder under `FTP` root. This is the staging area on the VoD server from which files are ingested to the destination folder.

Note It may take up to 20 minutes for a new server to be displayed in ETV Portal Server. Once added, any new content on any server is displayed immediately.

Add/Modify On-Demand Content Folders

The Add/Modify On-Demand Content folders can be used to autoingest content into a particular NXG Video-on-Demand server. The Portal Server periodically polls certain folders for presence of content and if found ingests the content onto multiple NXG servers. Any files are FTP'd into a particular folder in the Autoingest folder will automatically be ingested into the corresponding folder on the NXG server(s). You have to add these folders using the window shown below. (See Auto Content Ingestion on page 65 for more about auto-ingestion.)
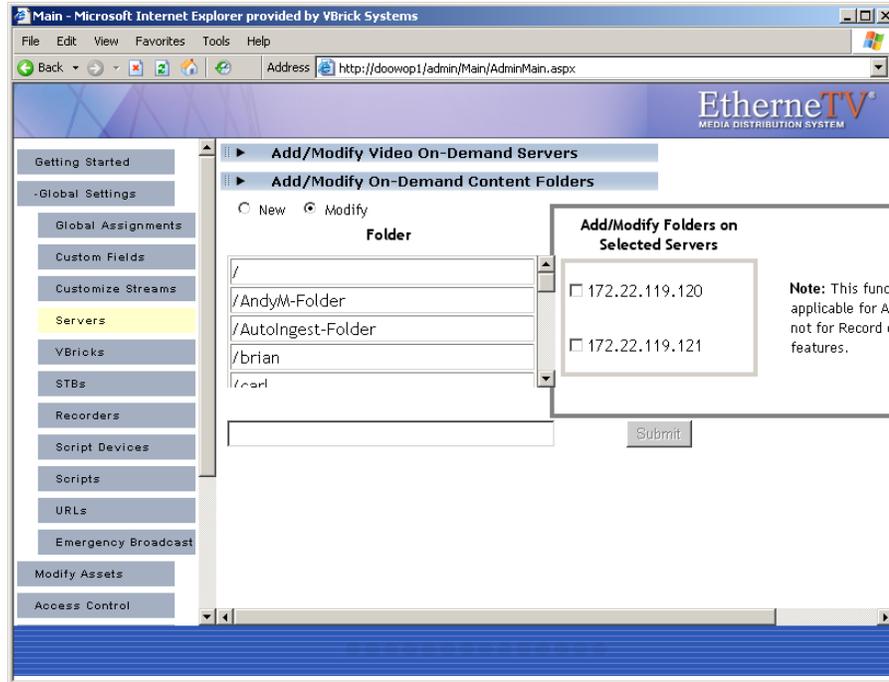
This function is useful for VBrick VBSTAR appliances to easily transfer content from their hard drives to the NXG server. (This feature can also be used for users who acquire content outside of the ETV Portal Server, for example StreamPlayer Plus.) When a folder is created, you must check a box in **Add/Modify Folders on Selected Servers** to associate the folder with a server for autoingestion. ETV Portal Server checks these folders every 5 minutes and ingests new content if present. This feature only applies to Autoingest; it does not apply to **Record** or **Add Video**.

As the folder structure is created in this section, autoingest folders will be created in the FTP root path. For example, if the FTP root path is `c:\inetpub\ftproot`, then folders that are created in the Add/Modify On-Demand content folders, will also be created in the `c:\inetpub\ftproot\mcs\autoingest` folder.

Autoingested content can go into any folder that has been associated with a server or servers using the **Add/Modify Folders on Selected Servers** check boxes shown above. If using a VBStar, be sure to associate a folder with a server for autoingest. This enables the folder that the VBStar will FTP files into. This function is not associated with a user or group permission, and is controlled only by the Administrator. See Auto Content Ingestion on page 65 for a more detailed description of the Auto-ingestion functionality.

Note   Existing folder structures on an NXG server will be mirrored in the Portal Server. However you will still need to associate those folders with other server(s) if the file is to be auto-ingested onto multiple servers.

VBricks

All VBricks must be configured in ETV Portal Server before they can be managed and used for scheduled events. (Brick configuration is only required if you be using the **Scheduled Programs** feature.) Once configured, all VBricks in the system are shown on the following

window. In the ETV Portal Server, SAP (Session Announcement Protocol) announcments are sent to the Portal Server by network-connected VBrick devices (encoders and/or decoders). The **Select VBrick** panel in the next screen shows VBrick appliances (encoders and decoders) that have announced their presence on the network but have not been configured for use in ETV Portal Server. (Note that if you delete a VBrick from the **Currently Configured VBrick List**, it will not be shown as available until you logout and log back in to the Admin pages.)

▼   To add a VBrick configuration:

1.   Go to **Global Settings > VBricks**.
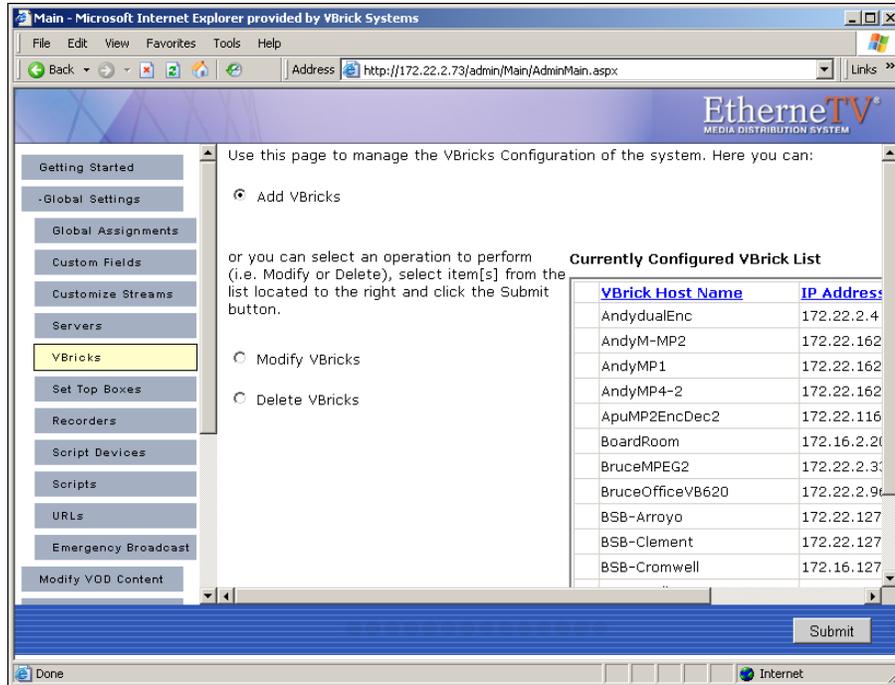

2.   Select **Add VBricks** and click **Submit**.
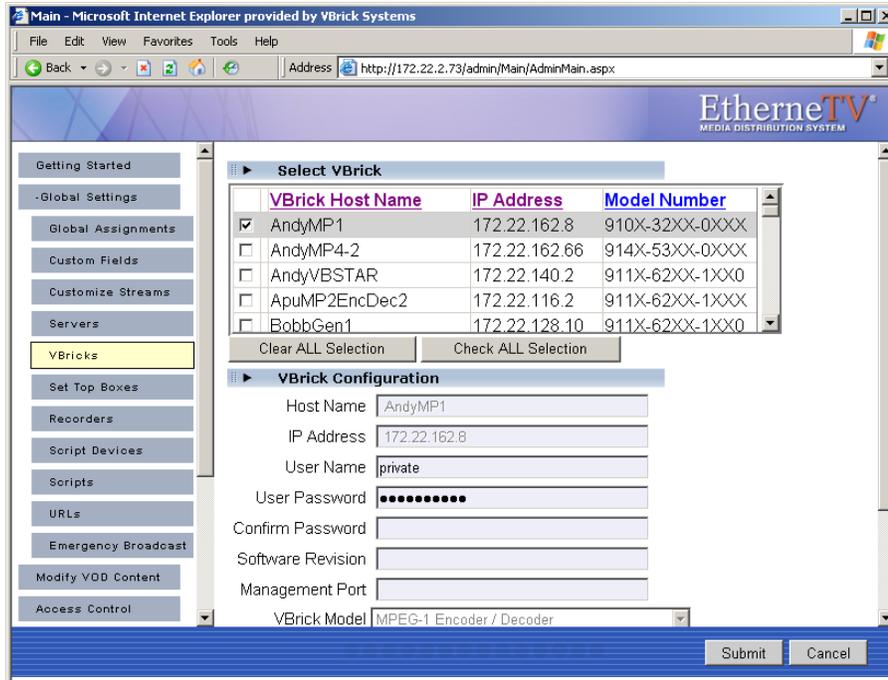
3. In **Select VBrick**, select one or more existing VBricks for which a SAP has been received. If you select one VBrick, this populates the **VBrick Configuration** panel. (If you select multiple VBricks, it does not populate the panel; if you need to configure the VBricks, you must add them one at a time.)

4. Complete or modify the fields in **VBrick Configuration** as necessary and click **Submit**. This adds the new configuration to the list of configured VBricks shown on the previous page.

Note The only time you will manually complete the VBrick Configuration fields is when you are defining the configuration for a VBrick that will be added to the network at a later time. In this case, you will need to know the configuration data in advance.

Host Name	Required. Host name of VBrick.
IP Address	Required. IP address of VBrick.
User Name	Defaults to system-defined value if blank.
User Password	Defaults to system-defined value if blank.
Confirm Password	Defaults to system-defined value if blank. Must match User Password if entered above.
Software Revision	Optional. To get the Software Revision in Integrated Web Server (IWS), go to **Status > System Information >** Release Revision.
HTTP Port	Optional. To get the HTTP Port in Integrated Web Server (IWS), go to **Configuration > System > Securit y >** IWS Server Port.
VBrick Model	Select from dropdown. Advanced settings are enabled if you select an encoder or a VBStar.

Advanced Settings

Advanced settings are enabled if you select a VBrick encoder or a VBStar. *Note that the Portal Server will attempt to retrieve and autofill the Multicast IP addresses and Port numbers.* You can modify these fields as necessary.
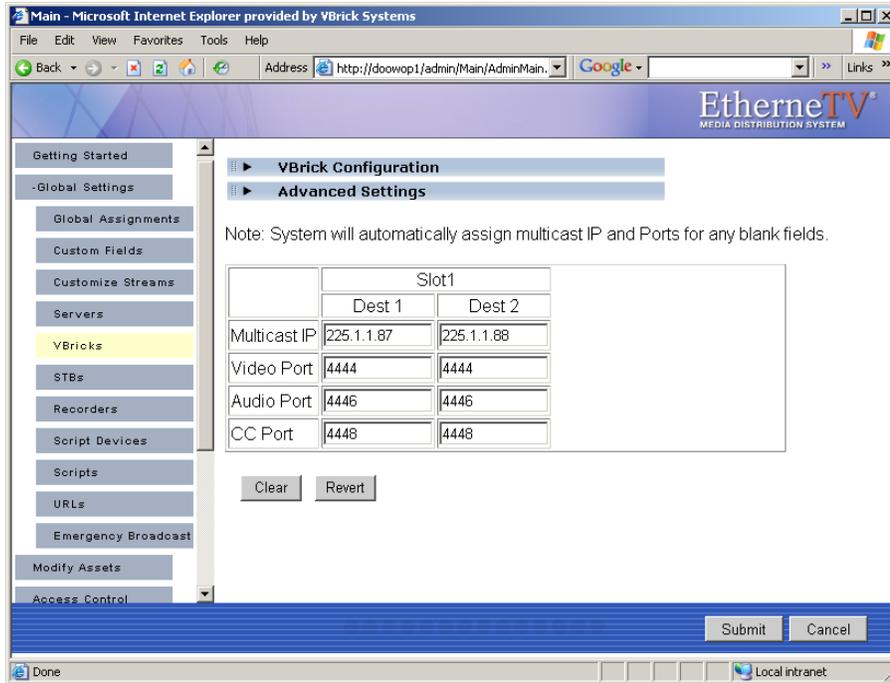

Note The following values are stored in the Portal Server database only. Depending on how a scheduled event is configured, they may be saved and written back to the VBrick device after the scheduled event runs.

Multicast IP	Destination multicast IP address.
Video Port	Destination video port.
Audio Port	MPEG-4 devices only. Destination audio port.
CC Port	MPEG-4 devices only. Closed captioning port.

Set Top Boxes

All STB (Set Top Boxes) must be configured in ETV Portal Server before they can be managed and used for scheduled events. Once configured, all STBs in the system are shown on the following window. The **Select STB** panel in the next screen shows STBs that have announced their presence on the network but have not been configured for use in the Portal Server.

▼ To add an STB configuration:

1. Go to **Global Settings > STBs**.
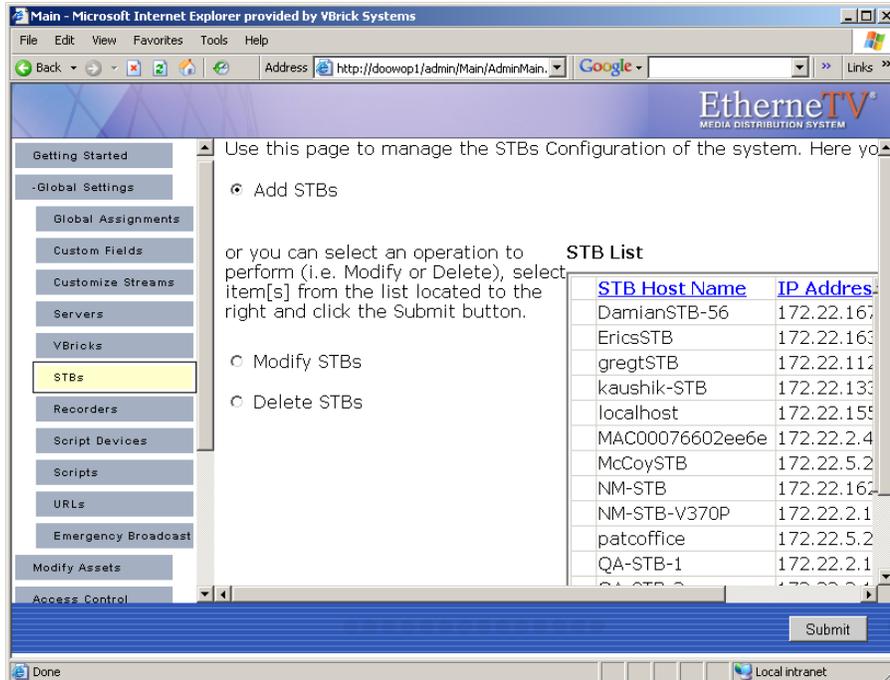
2. Select **Add STBs** and click **Submit**.

3. In **Select STB**, select one or more existing STB for which a SAP has been received. This populates the **STB Configuration** panel. (If you select multiple STBs, it does not populate the panel; if you need to configure the STBs, you must add them one at a time.)

4. Complete or modify the fields in **STB Configuration** as necessary and click **Submit**. This adds the new configuration to the list of configured STBs shown on the previous page.

Host Name	Required. Host name of STB.
IP Address	Required. IP address of STB.
User Name	Defaults to system-defined value if blank.
User Password	Defaults to system-defined value if blank.
Confirm Password	Defaults to system-defined value if blank.
Software Revision	Optional.
STB Model	Select from the dropdown.
Start Mode	Select from the dropdown: ETV Portal Server, Local, or Local-Fullscreen

Recorders

A Recorder server enables recording by Portal Server users. If a recorder server is not created here, any attempt to record a live stream or a stored video will fail. Once enabled, users must also be assigned the appropriate permissions (see <u>Allow Content Recording</u> on page 55).

▼   To add a Recorder configuration:

1.   Go to **Global Settings > Recorders**.
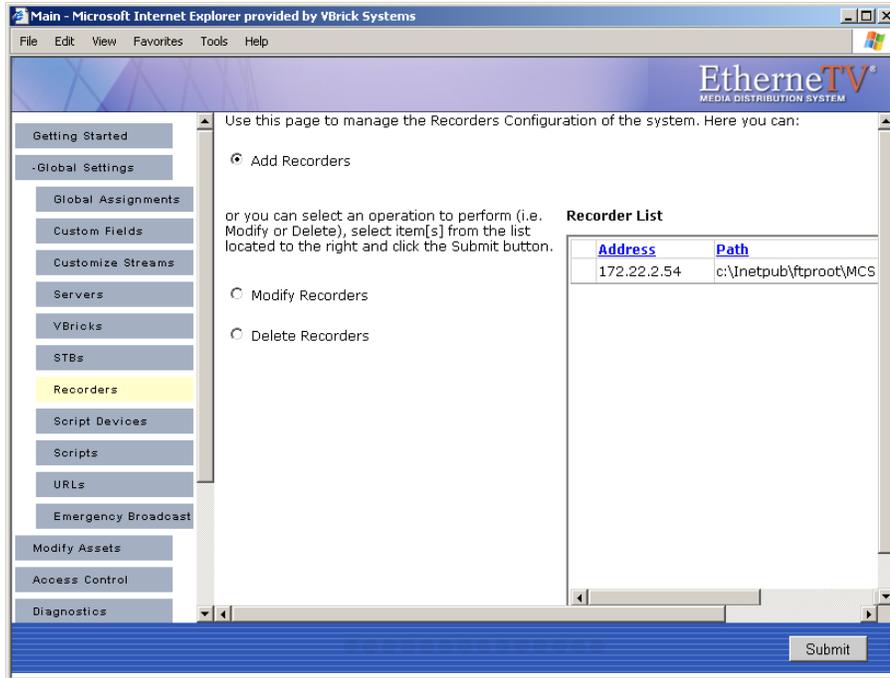
2.   Select **Add Recorders** and click **Submit**.
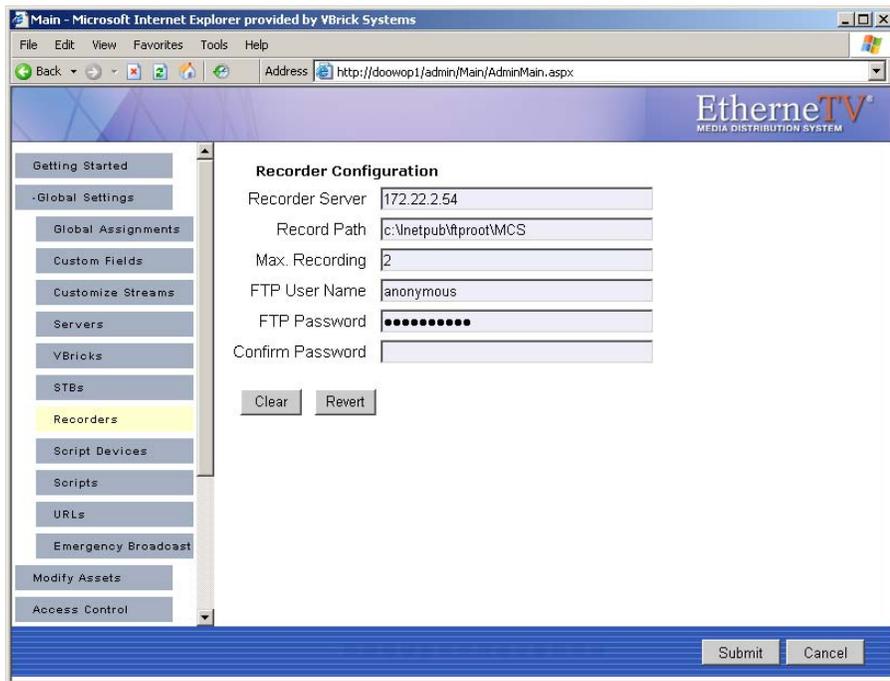
3.   Complete the fields in **Recorder Configuration** and click **Submit**. This adds the newly configured recorder to the previous window.

Recorder Server	IP address or host name of recorder server. Defaults to localhost if recorder server is on the same machine as ETV Portal Server.

|	
Record Path	Path and folder where all recording are stored. By default, recordings are stored on the D: drive. If you install ETV Portal Server on a system without a D: drive, you must change the path. Also, in order to record multiple streams, the Record Path must be under FTP root. For example, if root is `C:\Inetpub\ftproot` the Record Path must be `C:\Inetpub\ftproot\<your_folder>`
Max. Recording	The default number of concurrent recording sessions allowed is 2. If you exceed 2, you must purchase a record license. Without a license, any attempt to record more than 2 concurrent sessions will fail.
FTP User Name	FTP user name in operating system of Recorder server.
FTP Password	FTP password in operating system of Recorder server.
Confirm Password	FTP password in operating system of Recorder server.

Script Devices

Script devices work with scripts. Script devices are VBricks, STBs, or non-MPEG-1, 2, or 4 devices (like cameras or VCRs) that are identified in the Portal Server database. Once defined in the network, they can be subsequently controlled by a script (see Scripts on page 27) and launched from ETV Portal Server. A script device must be physically connected to the network (or to a VBrick or Set-Top Box) and must be available at the runtime of a scheduled event. Script devices are controlled through a TCPIP port. For example, PTZ cameras respond to pan, tilt, and zoom commands; these commands can be scripted and executed from ETV Portal Server.

▼   To add a Script Device configuration:

1.   Go to **Global Settings > Script Devices**.
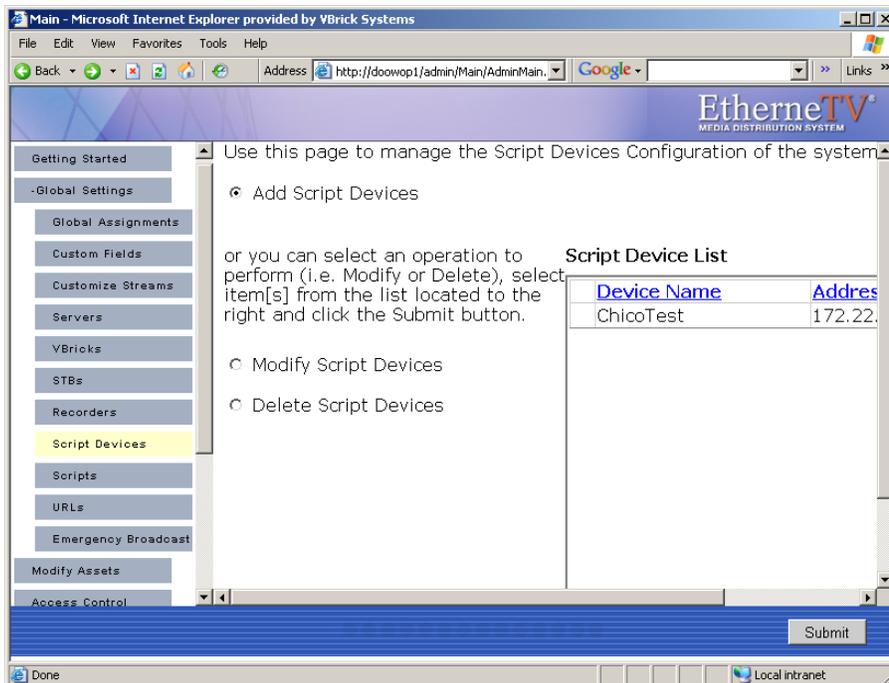
2. Select **Add Script Devices** and click **Submit**.
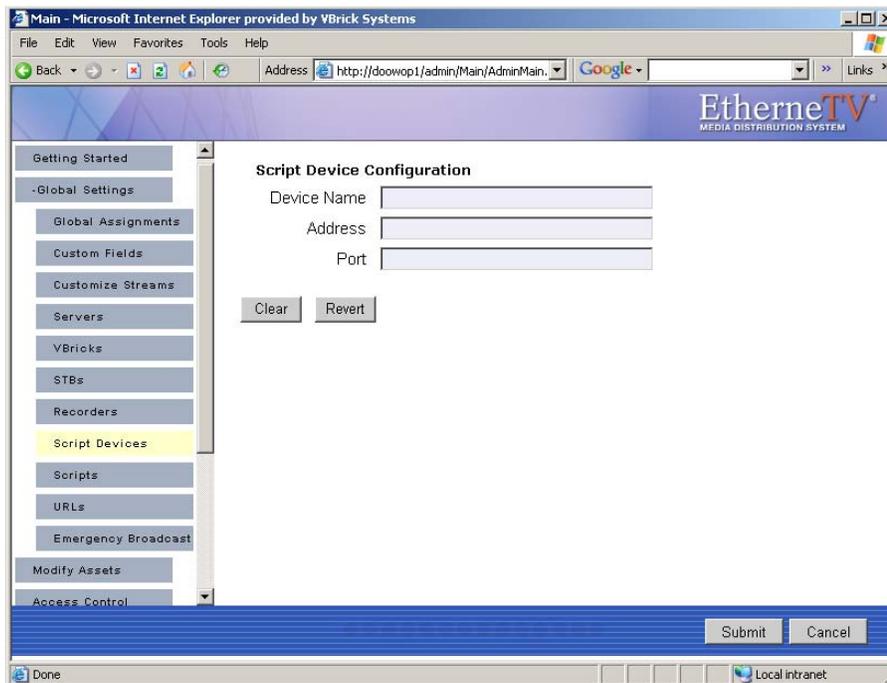
3. In **Script Device Configuration**, complete the following fields and click **Submit**. This adds the newly configured script device to the list of devices shown in the previous window. To modify a Script Device, first delete the device and then repeat these steps.

Device Name	Any user-defined name.
Address	Hard-coded device IP address. This can be the address of the VBrick or Set-Top Box to which the script device is connected.
Port	TCPIP port number.

Scripts

Scripts work with script devices. Scripts are used to control the operation of MPEG-1, 2, or 4 devices or to control non-MPEG devices like cameras and VCRs. (MPEG devices are added to ETV Portal Server as VBricks. non-MPEG devices are added as Script Devices.) For MPEG devices, you select the device and build a script by selecting parameters from a dropdown list—the parameters vary depending on the type of device you select. For non-MPEG (Other) devices, you write a script from scratch using the native language for that device. This is for advanced users only. Note that if you are scheduling an event, any device for which you write a script must be available to the network at runtime.

▼ To add a Scripts configuration:

1. Go to **Global Settings > Scripts**.
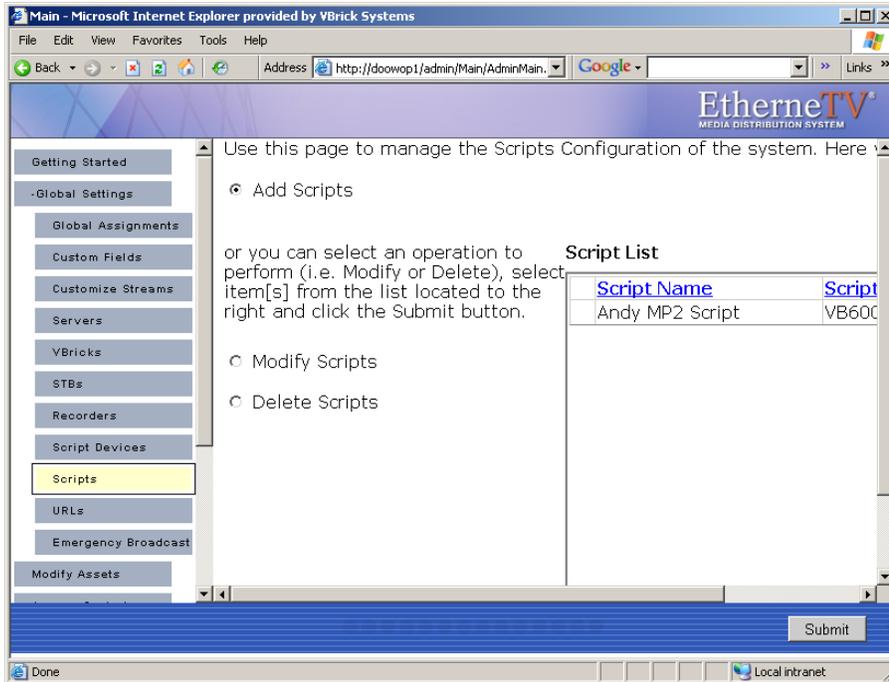
2. Select **Add Scripts** and click **Submit**.
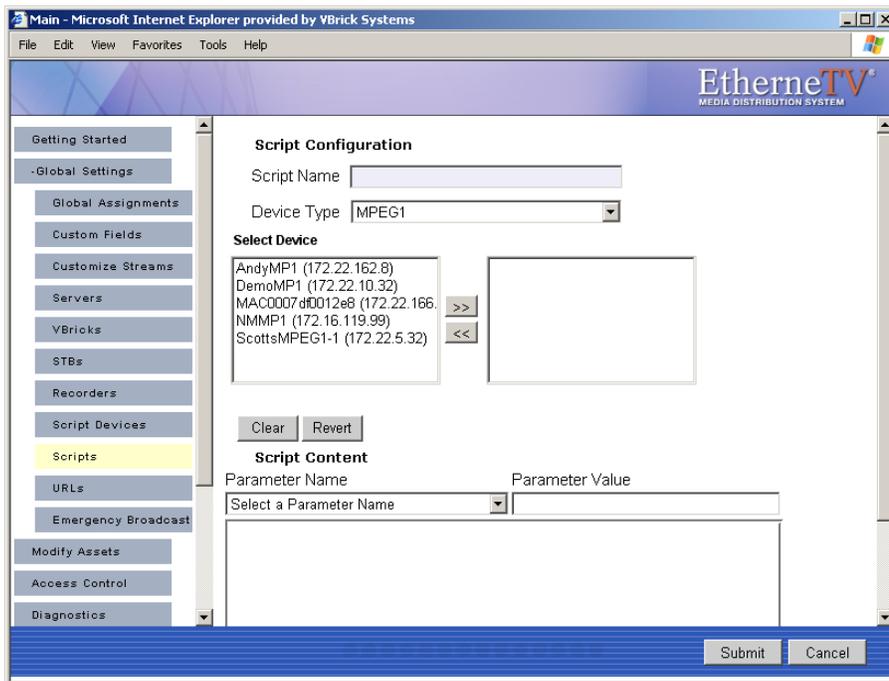
3. In **Script Configuration**, enter a **Script Name** and select a **Device Type** (**MPEG1**, **MPEG2/ MPEG4**, or **Other**) from the dropdown list and wait a few seconds for ETV Portal Server to populate the panel with an appropriate list of devices.

4. In **Select Device**, highlight one or more devices and use the arrow buttons to populate the right panel with the selected devices.

5. Create the **Script Content**.

a. For MPEG devices, select a **Parameter Name** from the dropdown, enter a **Parameter Value**, and click **Add**. Repeat as many times as necessary and click **Submit** when done. Note that the order in which you add parameters is critical. This is the order in which they will be executed at runtime.

b. For non-MPEG (Other) devices, write the script in a native language compatible with the device and click **Submit** when done.

URLs

Add/Modify a URL for a Live Video Stream

Administrators can manually enter URLs to live video streams that will not automatically be displayed by the Portal Server. For example, the administrator may wish to have the Announcements (SAPs) disabled on the VBrick encoders for security purposes. Or the Administrator may want to enter the address of an off-network stream such as an MPEG-4 Stream from an Apple Darwin Server or a stream coming from a hosting provider. Additionally, this feature leys you enter the addresses of non-MPEG streams such as Windows Media and Real streams. Note that the Access Control feature <u>Allow Viewing by Content Type</u> does not apply to manually added URLs.

Note   For any non-MPEG video, the correct player (such as Windows Media Player or Real Player) must be present on the desktop for the client to be able to receive the stream. Set Top Boxes will not be able to receive non-MPEG streams because the Set Top Box only includes decoders for MPEG-1, MPEG-2, and MPEG-4.

The following examples show valid URL syntax for live video streams. The syntax must be accurate and there is no internal validation of user input:

Valid for Types MPEG-1 and MPEG-2

`vbricksys://ip=239.1.1.1&port=4444`

Where `239.1.1.1` is the multicast IP address and `4444` is the multicast port.

Valid for Type MPEG-4

`rtsp://172.1.1.1/vbrickvideo1`
`vbrtsp://172.1.1.1/vbrickvideo1`

Where `172.1.1.1` is the source IP address and `vbrickvideo1` is the program name.

`vbhttp://172.1.1.1/vbs2d1.sdp`

Where `172.1.1.1` is the source IP address and `vbs2d1.sdp` is the SDP file name.

Valid for Type Other

<u>ASX Files</u>

`http://172.1.1.1/file.asx`
`http://myHost/file.asx`
`http://www.myCompany.com/files/file.asx`

<u>MP3 and WMA Files</u>

`http://172.1.1.1/file.mp3`
`http://myHost/file.mp3`

```
http://172.1.1.1/file.wma
http://myHost/file.wma
```

<u>WMV Files</u>

```
http://www.myCompany.com/files/file.wmv
mms://www.myCompany.com/files/file.wmv
```

▼   To add a URL for a live video stream:

1.   Enter the URL or IP address in the **URL** field.

2.   Enter the **Type** and **Title** and click **Add** to add the URL to the list of streams shown.
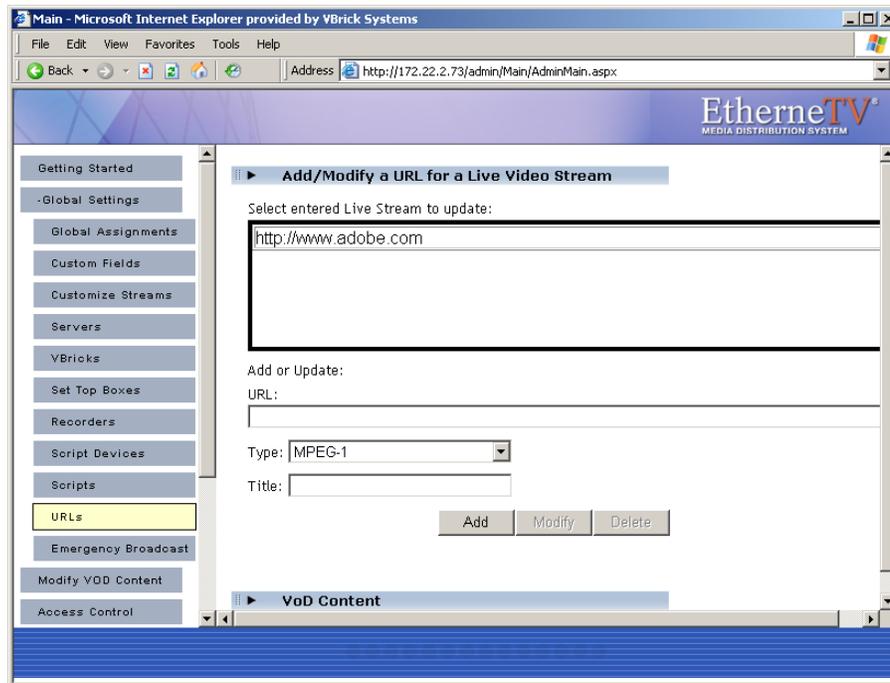
URL	Enter a valid URL or IP address.
Type	Choose MPEG-1, MPEG-2, MPEG-4 or Other (Other must be selected for non-MPEG streams).
Title	Title is what will display to clients in the ETV Portal Server viewing pages.

VOD Content

Administrators can manually enter URLs to VoD content that will not automatically be displayed by the Portal Server. These URLs can be to content that is located on a non-NXG Video-on-Demand server, such as the QuickTime/Darwin server, a Windows Media server, or a Real server. This is valuable if it is desired to enter an off-network stream such as an MPEG-4 Stream from an Apple Darwin Server or if there is Windows Media or Real content that needs to be displayed through the Portal Server interface. Examples of Syntax could be:

```
rtsp://ipaddress/programname
mms://ipaddress/videoname.wmv
```
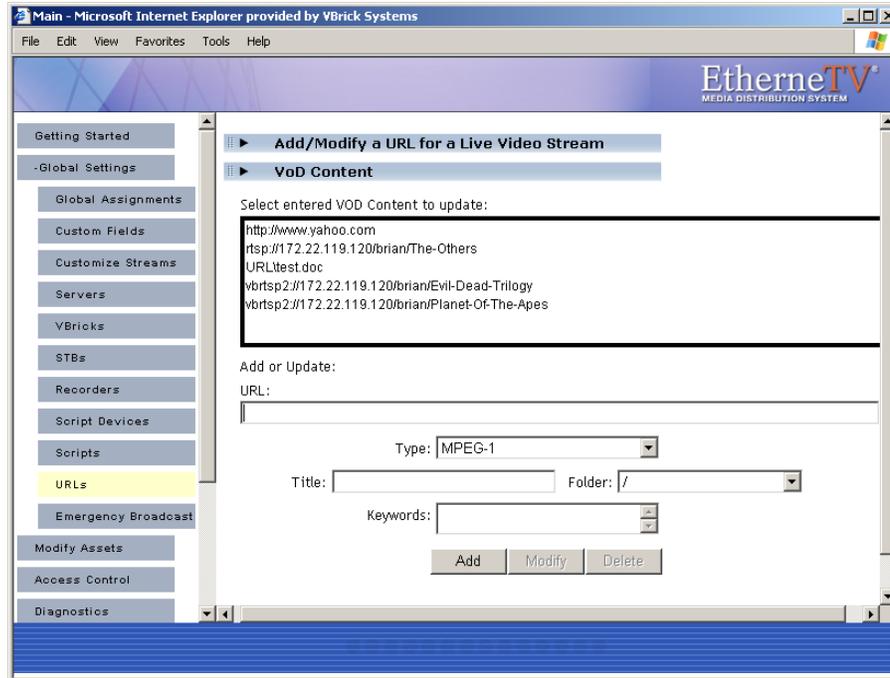
Type	Choose **MPEG-1**, **MPEG-2**, **MPEG-4** or other (user **Other** for non-MPEG streams).
Title	Title is what will display to clients in the ETV Portal Server viewing pages
Folder	Folder is the folder on the VoD server in which the video will be displayed.
Keywords	Enter keywords that can be searched.

Press **Add** to add the VoD content to the list. VoD content also can be Modified or Deleted. Simply select the VoD content, make modifications (if required), and click **Modify** or **Delete**.

Non-Video to Content (PC Users Only)

In the **VoD Content** section, Administrators can also link to external documents such as PDF files, PowerPoint files, web pages, or anything that can be displayed in a browser or other external program. For content that needs to loaded in a specific program (for example, PowerPoint slides), the application must be present on the desktop for that file to be viewed.

These URLs can point to a web servers or local drive. The Portal Server server can act as the web server for this content, if the content is placed in the `c:\program files\vbrick\mcs` directory on the ETV Portal Server (or in any subdirectory you create, e.g. `... mcs\test_files\test.doc`). A local path or network shared path also can be entered. Content accessed from a local drive (or network shared path) needs to be entered in the format `c:/path/file` (it will fail if you use back slashes, for example `c:\path\file`). Also, this drive needs to be accessible by those that have access to the link.

Emergency Broadcast

These pages are used to create emergency broadcast templates that Portal Server users can subsequently use to launch an emergency broadcast. An emergency broadcast is a schedule that can be executed by Portal Server users with appropriate permissions. This schedule broadcasts a live or stored video to specified VBricks or STBs in case of an emergency. The schedule is executed instantly, for a specified duration or indefinitely. When done (or manually stopped) all preempted schedules automatically resume.

An emergency broadcast template pre-defines all parameters for the broadcast so that it can be launched immediately; it pre-empts all other broadcasts. Very simply, you define the source stream (live or stored) and the downstream targets (VBricks or STBs) and then save the template for future use.

Note Live and stored broadcasts, in this context, refer to content that is being streamed over your IP multicast-enabled network. This does not mean there is IP broadcasting to your entire network.

▼ To add an Emergency Broadcast Template:

1. Go to **Global Settings > Emergency Broadcast**. This page shows a list of previously defined templates (if any).
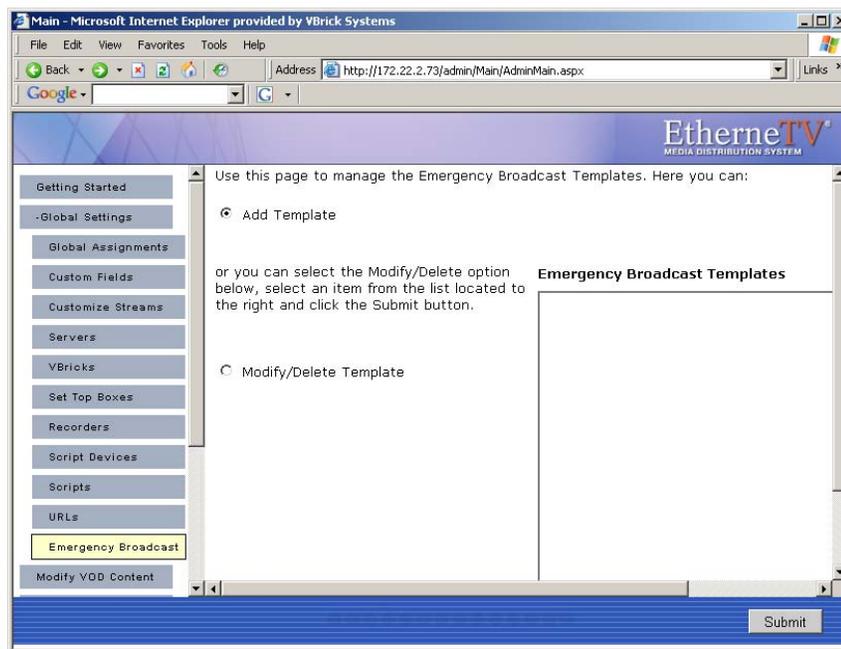
2. Select **Add Template** and click **Submit** to display the following window.
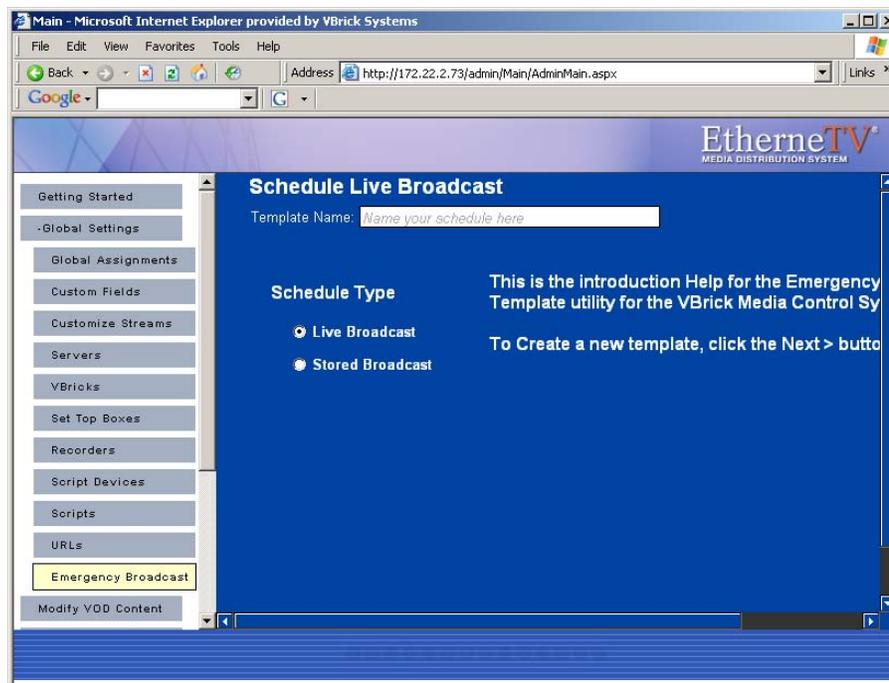
3. Enter a **Template Name**, select a **Schedule Type**, and click **Next**. (Duplicate template names are allowed but not recommended.)

   Each **Schedule Type** subsequently has a different wizard depending on the selections you make but basically, you select the source stream (which can be a live or stored broadcast), the downstream targets (VBricks or STBs) to which it will be broadcast, and configure any **Advanced Settings** (see note below) for the VBricks or STBs. When done the template you created is available to authorized Portal Server users as an Emergency Broadcast template. See the *ETV Portal Server v3.1 User Guide* for more information.

Note	**Advanced Settings** are available to configure VBricks and STBs with exceptional configuration parameters. It is unlikely you will ever need to change these settings. In all cases you can safely ignore the **Advanced Settings** and use the defaults provided by ETV Portal Server.

Template name	Alphanumeric characters or spaces. No special characters.
Schedule Type	<u>Live Broadcast</u> • VBrick – Select a live stream by VBrick Name. Then select the destination VBricks or STBs. • Program Name – Select a live stream by Program Name from all available. Then select the destination STBs. • Enter Manually – Select an MPEG source residing at a specified IP address. Then select the destination STBs.

	Stored Broadcast • VoD Name – Select an NXG server and a source video. Then select the destination VBricks or STBs. • VBrick Name – Select a VBrick (or VBStar) and a source video. Then select the destination VBricks or STBs.

4. Configure **Advanced Settings** for VBricks and STBs as necessary. As noted, it is unlikely you will ever need to change these settings. In all cases you can safely ignore these settings and use the defaults provided by ETV Portal Server.

These settings generally set configuration options for source devices and destination devices (VBricks and STBs) so that they are configured properly (e.g. transmit/receive enabled/disabled) at the beginning and end of an emergency broadcast. All required devices must be present and enabled for a successful emergency broadcast. The settings differ depending on the device (e.g. MPEG-2 or -MPEG-4) you select and will include some or all of the fields shown in the table below.

© 2005 VBrick Systems, Inc.

Schedule Start Options	Enter values that describe the device state at schedule start.
	• Program Name – Program name selected above.
	• Template – MPEG-4 only. Screen varies for MPEG-1, 2, or 4.
	• Destination – Destination 1, Destination 2, RTSP Server.
	• Destination Address – Enter value.
	• Video Port – Enter value.
	• Audio Port – Enter value.
	• Closed Captioning Port – Enter value.
	• Video – Enabled, Disabled, As Configured.
	• Audio – Enabled, Disabled, As Configured.
	• Closed Captioning – Enabled, Disabled, As Configured.
Schedule End Options	Enter values that describe the device state at schedule end.
	• Video – Enabled, Disabled, As Configured.
	• Audio – Enabled, Disabled, As Configured.
	• Closed Captioning – Enabled, Disabled, As Configured.

5. Click **Next** to page through each wizard.
6. Click **Finish** when done.
7. Verify the information and click **Create Schedule** when prompted (or use the **Back** button to make changes). When finished, the template is added to the list of Emergency Broadcast Templates available to ETV Portal Server users from the Portal Server application. See the *ETV Portal Server v3.1 User Guide* for more information.
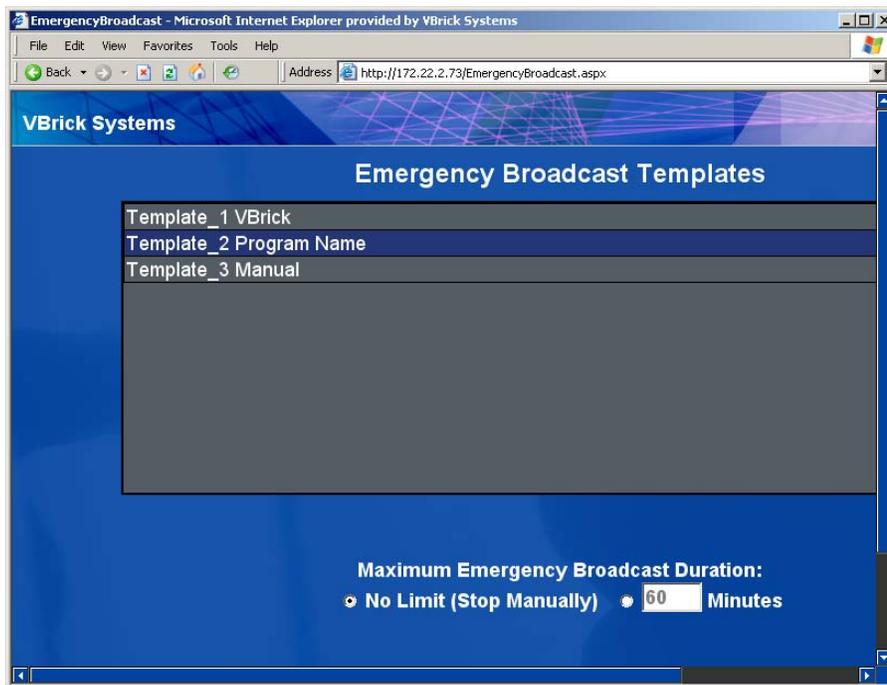
Modify VOD Content

(NXG Video on Demand Servers only.) Administrators and authorized users can modify and delete content located on their video on-demand servers. Administrators can filter the displayed assets by filtering on **Keyword**, **Title**, or **All**. Use the **Purge** button to remove the artifacts of failed **Delete** operations. Also, a user with publishing permissions can delete content by clicking the **Info** button and then **Delete Video**. To disable this user option, disable the user's content publishing permissions (see <u>Allow Content Publishing</u> on page 55).

> **Note** You cannot rename or otherwise manage VOD files stored on some legacy NXG servers. This feature is supported on NXG2 servers and on all servers currently being shipped with ETV Portal Server 3.1.
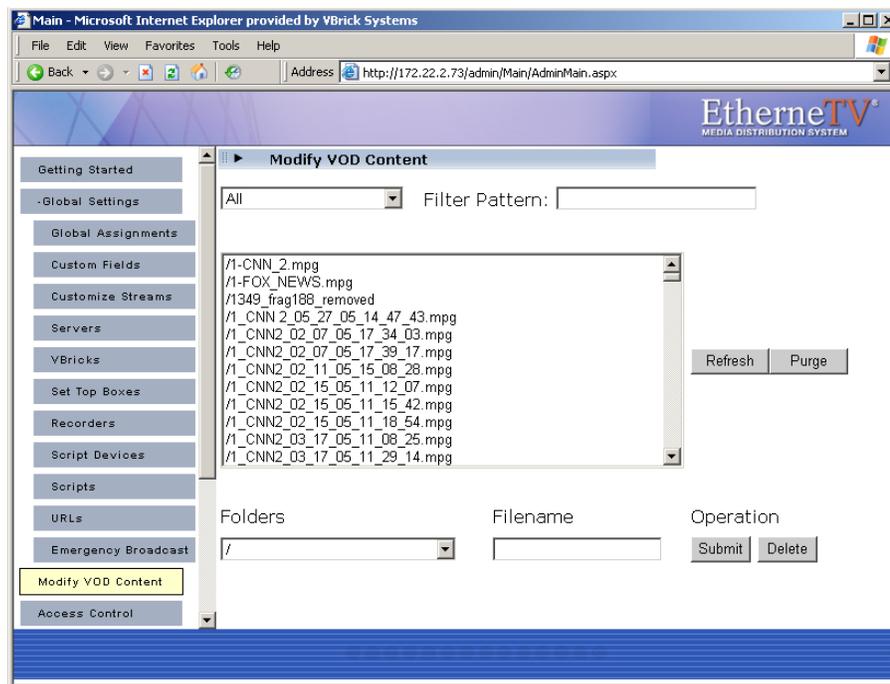
▼ To modify VoD Content:

1. Click on the content to be changed.

2. Enter a new filename and/or path for that file. Note that the file must be alphanumeric characters and cannot contain embedded spaces.

3. To delete a file, select the file and click **Delete**.

Access Control

Under the Access Control section, administrators have the ability to enable Authentication and Authorization which requires users to login and be authenticated. By default **Enable Authentication and Authorization** is unchecked which allows everyone to access all content and all functions (recording, publishing, etc.). When Access Control is enabled, **Users**, **User Groups**, and **Resource Groups** are shown on the navigation bar. Access control determines what functionality is available to each user. For example some users may have unlimited

access, while others can only view certain live channels and may not have permission to record live channels or add videos to the VoD server.

Access control also lets you specify which folders are used when individual users record live broadcasts, add videos, or autoingest content. If you do not enable **Authentication and Authorization**, all of these actions default to the root folder (which can quickly get cluttered).
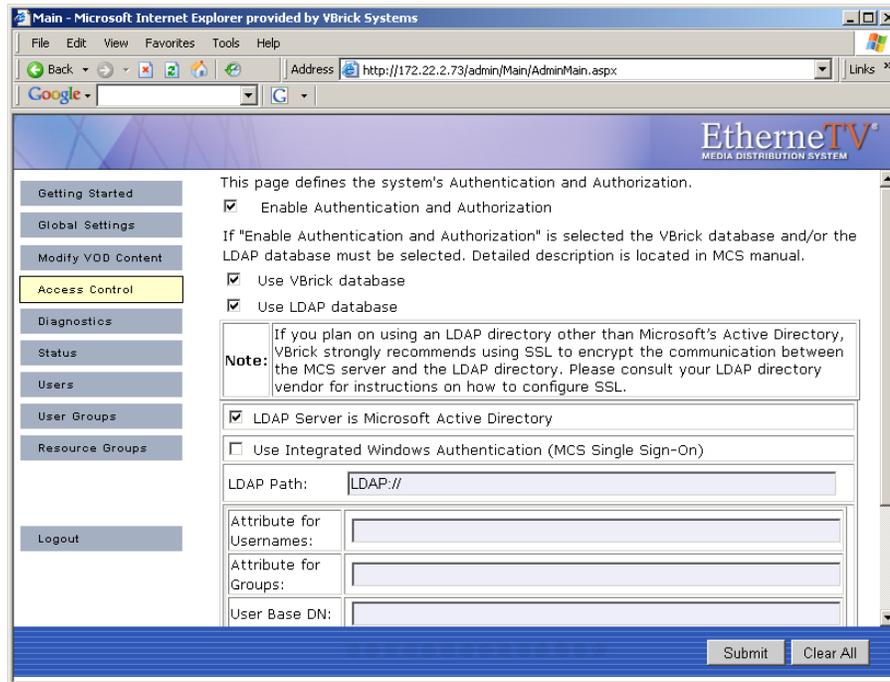
Note	As soon as you check **Enable Authentication and Authorization**, users will be prompted for User Names and Passwords. VBrick recommends configuring the system prior to user access or during off hours when the network is idle.

Administrators have the option of using the onboard **VBrick database** for authentication, using an **LDAP database**, or using both. *VBrick supports major LDAP vendors but only Microsoft Active Directory, Novell eDirectory, and OpenLDAP are fully tested and supported.* If authenticating against Microsoft's Active Directory, check the **LDAP Server is Microsoft Active Directory** check box and enter the path to the LDAP server in the **LDAP Path** box. If authenticating against a directory other than Microsoft Active Directory, do not check **LDAP Server is Microsoft Active Directory**. LDAP (Lightweight Directory Access Protocol) is a standardized method to access directories from multiple vendors. A complete discussion of LDAP is beyond the scope of this document.

Enable Authentication and Authorization	Enable authentication and authorization which requires users to login and be authenticated. If not checked, all users have access to all functionality and content.
Use VBrick database	Use the VBrick (non LDAP) database provided with ETV Portal Server.

Use LDAP database	Use an LDAP database. VBrick supports major LDAP vendors but only Microsoft Active Directory and Novell eDirectory are fully tested and supported.
LDAP Server is Microsoft Active Directory	Check only if using Microsoft Active Directory.
Use Intengrated Windows Authentication	Use "single sign-on." This means that once you login to your local network, you can open ETV Portal Server without re-entering your login credentials. See below <u>Using Single Sign-On</u>.
LDAP Path†	*Required by ETV Portal Server.* Case sensitive. Must begin with `LDAP://` Points to a specific position in the LDAP tree and also includes the machine IP address (or Domain name) on which the server is running. For example use `LDAP://myLDAPServer` with Microsoft Active Directory; use `LDAP://myLDAPServer:636` with Novell eDirectory. For more information, see <u>Installing the Root Certificate</u> on page 40.
Attribute for Usernames†	*Required by ETV Portal Server.* Attribute to identify a user. The following sample username attributes are widely used but refer to a specific LDAP schema: • Microsoft Active Directory: `sAMAccountName` • Novell eDirectory: `uid`
Attribute for Groups†	*Required by ETV Portal Server.* Attribute to identify the group to which a user belongs. The following sample group attributes are widely used but refer to a particular LDAP schema: • Microsoft Active Directory: `memberOf` • Novell eDirectory: `groupMembership`
User Base DN	Base distinguishing name (DN) of user nod and/or the Base DN for the Master Username.
Username Prefix	Used in non-Active Directory environments where the user name is prefixed with a specific string such as `uid=` or `cn=`. The following sample prefixes are widely used but refer to a specific LDAP schema: • `uid=` • `cn=`
Master Username	Required for single-sign-on. User name that has admin permission to browse the LDAP tree. Used to browse the LDAP tree to get user groups.
Master Password	Required for single-sign-on. Password for Master Username.

† ETV Portal Server required field. All others are optional.

> **Note** The Softerra LDAP Browser 2.6 provides an Explorer-like LDAP client you can use to browse the LDAP tree. It is available for Windows only and can be downloaded free of charge from Softerra at http://www.ldapbrowser.com

Using Single Sign-On

If the LDAP server is Microsoft Active Directory, you can select **Integrated Windows Authentication** to enable "single sign-on." This means that once you login to your local network with your assigned credentials, you can open ETV Portal Server without re-entering your login credentials. ETV Portal Server uses your assigned credentials to authenticate and authorize your defined permissions within the application. When configuring for Integrated Windows Authentication, keep the following points in mind:

* Integrated Windows Authentication is only valid when using LDAP Authentication with Microsoft Active Directory. ETV Portal Server enforces this as a business rule.
* Integrated Windows Authentication only works seamlessly with Microsoft Internet Explorer browsers (Windows and Macintosh). When accessing ETV Portal Server, you will get a popup login window *only* if you have not previously logged in to the network.
* When using Integrated Windows Authentication, all single-sign-on users must have an Active Directory account and the Portal Server server must be part of the Windows domain.
* When using Integrated Windows Authentication, Microsoft Internet Explorer's default behavior is that it will *not* prompt for an ID/password when the server is in the **Local Intranet Zone**. (By default, Internet Explorer assumes a URL without a period (.). This means `http://yourserver/` is in the **Local Intranet Zone** while `http://yourserver.yourcompany.com` (or `http://199.88.7.11`)) is in the **Internet Zone**.

▼ To use single-sign-on (and avoid username/password prompts), you must do **one** of the following:

* Access the Portal Server server by the *alphanumeric name* (for example `http://yourserver/`).
* Access the Portal Server server by the *IP address* in which case you must also:
  * Add the Portal Server server to the **Local Intranet Zone** (**Internet Options > Security > Sites**). This setting can be pushed company-wide by an administrator using security policies.
  * Change Internet Explorer's default settings to allow Automatic Logon for non-Intranet zones (**Internet Options > Security Tab > Customize Level > User Authentication**).

> **Note** If using an LDAP directory other than Microsoft's Active Directory, VBrick strongly recommends using SSL to encrypt the communication between the Portal Server server and the LDAP directory. Please consult your LDAP vendor documentation for instructions on how to configure SSL.

Using LDAP Servers with SSL

Installing the Root Certificate

If the LDAP server requires SSL for authentication, you will need to install the certificate locally on the ETV Portal Server.

▼ To install the root certificate locally on the ETV Portal Server:

1. Open Internet Explorer.
2. In the address bar type `https://LDAPSERVER:636` where `LDAPSERVER` is the address of the LDAP Server associated with Certificate Authority (See <u>Resolving Other Security Alerts</u> on page 42) and `636` is the SSL port used to authenticate with the LDAP Server.
3. The **Security Alert** window should appear allowing you to install the Root Certificate from your Local CA.

Note All three items in the Security Alert window below must be in compliance. The first item can easily be installed using these instructions; for the middle item, the local CA will need to create a new certificate if it is out of date; for the last item, the name of the certificate will need to match the address entered in the address bar of your browser.

---
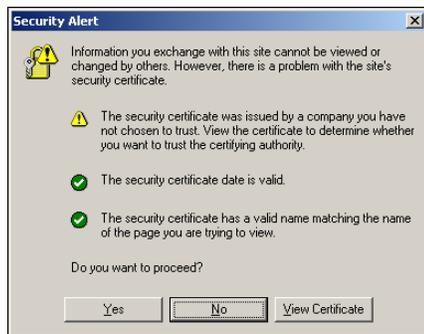
4. Click **View Certificate**.
5. A Certificate window will open, click on the **Certificate Path** tab.
6. In the **Certificate Path** choose the root certificate by selecting the *top-most* certificate. If there is only one certificate, go to Step 8.
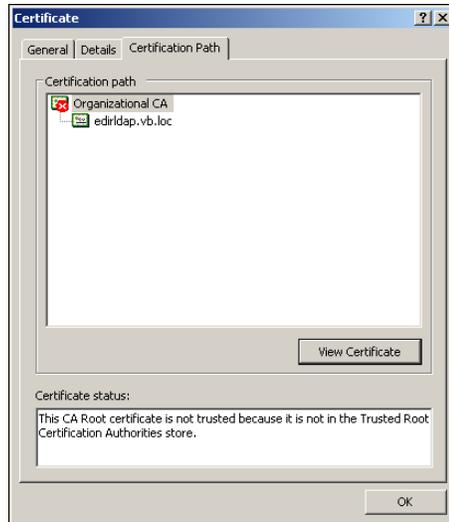
7. Click the **View Certificate**.

8. Choose the **General** tab. and click **Install Certificate**.

9. Click **Next**.
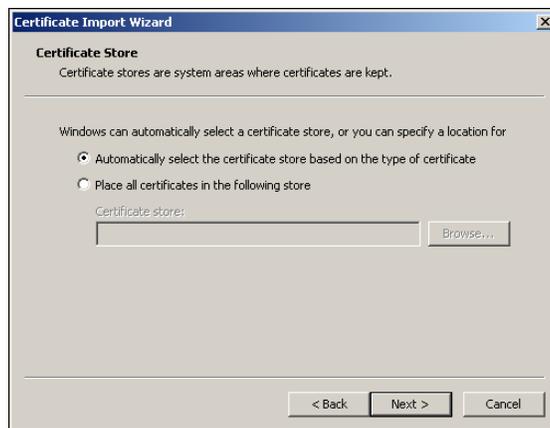
10. Click **Place all certificates in the folowing store**.

11. Click **Browse**.

12. Check **Show physical stores** check box.

13. Click the plus sign (+) next to **Trusted Root Certificate Authorities**.

14. Select **Local Computer** and click **OK**.

15. Click **Next** and **Finish** when done.

16. Click **OK** and back out to the Security Alert window. Click **No** on Security Alert window.

17. Click **Go** on the address bar in your browser. If any warnings are present, go to the next section.

Resolving Other Security Alerts

If you are receiving any other Security Alerts you will need to identify the problem as either "out of date" or **The name on the security certificate is invalid.** If the certificate has an invalid name, follow the steps below to determine the valid name. If the certificate has an "out of date" error, a new certificate must be created.

▼ To determine the valid certificate name:

1. Click **View Certificate**.

2. The **General** tab shows who the Certificate is issued to; the address shown is the address that will need to be used in the browser address bar, as well as in the configuration of the LDAP Server.

For example: if the information is `edirldap.vb.loc` then the address bar should read `https://edirldap.vb.loc:636` and the LDAP Path should read `LDAP://edirldap.vb.loc:636` To find out if the address is accessible, ping the address given in a command prompt. If the address is not accessible you must create or add a DNS entry to the Host file on the local server or generate a new certificate with the correct information.

Diagnostics

This window displays information about Scheduler events only. It displays system log messages by source and time and (generally) IP address. Use **Clear All** to empty the log.
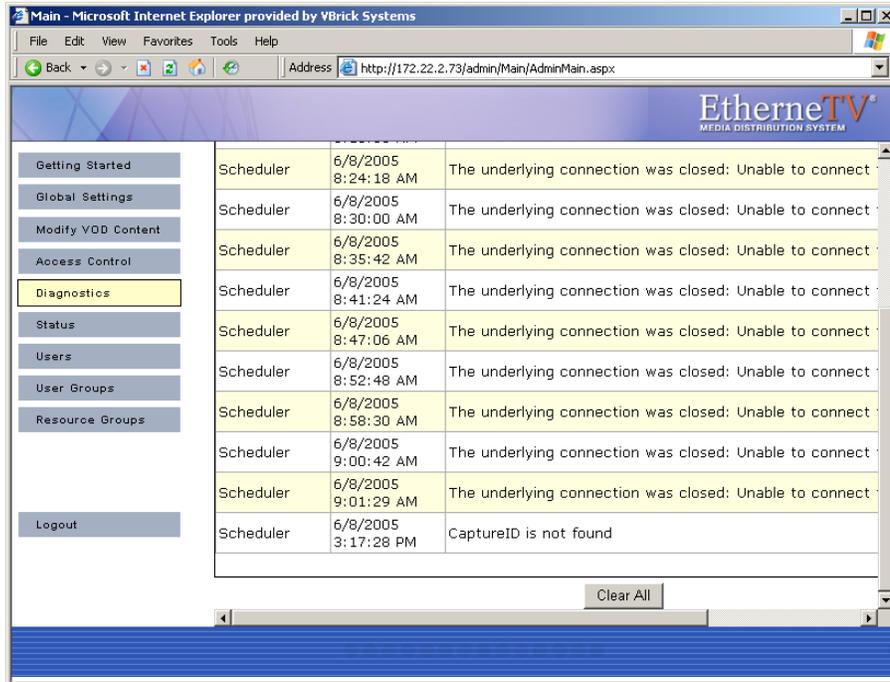
Status

This window shows the status of videos being added or recorded. Use **Refresh** and **Purge** as necessary. Use the tree controls on the left to expand (or contract) individual entries. Click the Cancel icon ✖ to the left of each to cancel a recording or ingestion in progress. This also cancels the recording on the Live Broadcasts page.
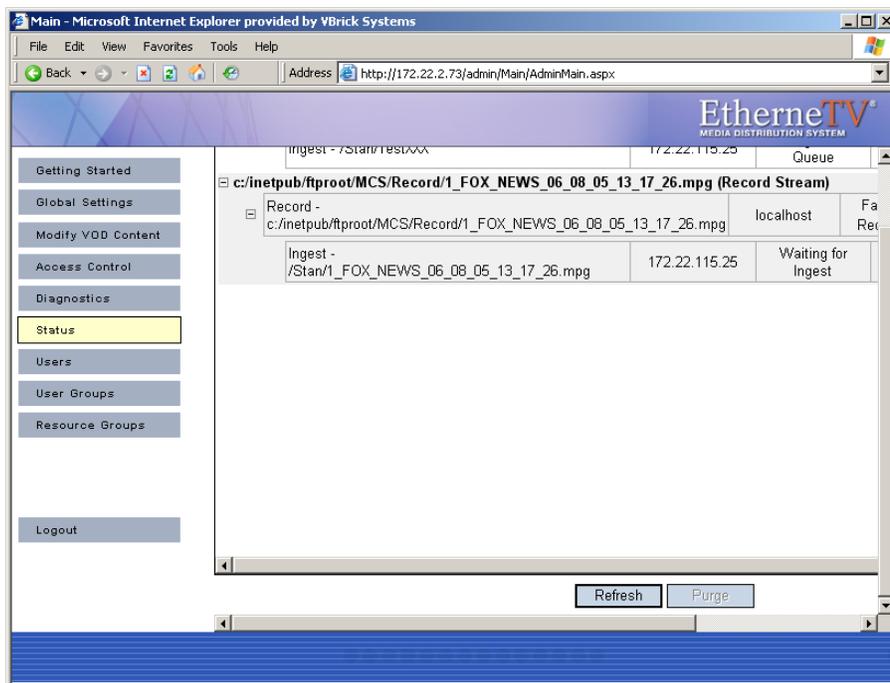
Help

This command launches the ETV Portal Server online help system in a new window. This online help system provide fast full-text search and makes it easy to find the information you need. To navigate in the help window, use the tree controls on the left to expand a topic and the navigation buttons at the top to move to a different page. Go to **About this Help > Using this Help** for information about how to Print pages and use the full text Search feature.
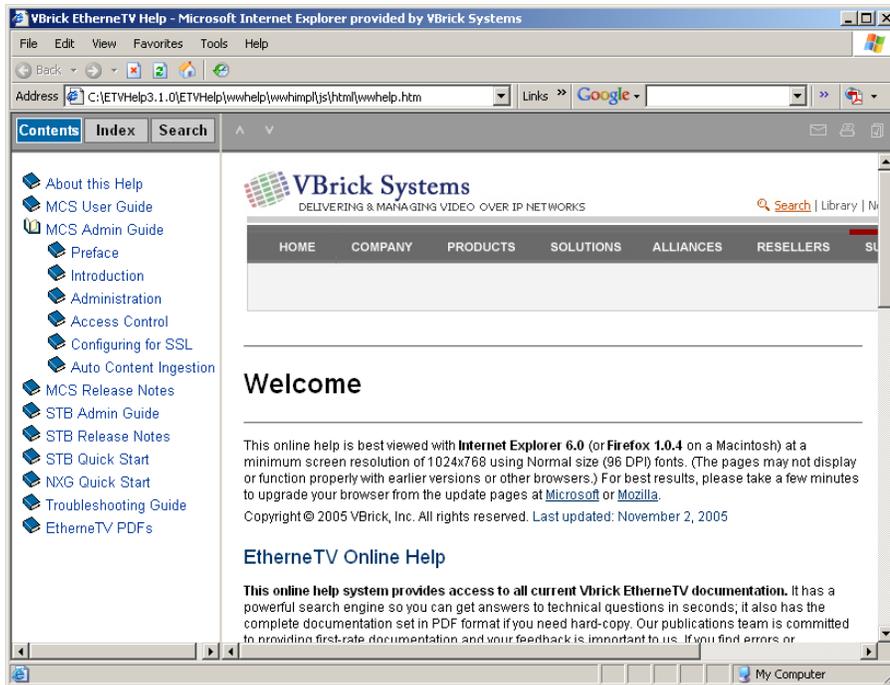
Logout

This command logs you out of the application and lets you log back in as a different user. This may be necessary to gain access to certain functionality. For example, some users may not be allowed to create thumbnails and you may want to login as a user who has the permissions to do this.

Access Control

Overview

Adding the EtherneTV system to a network provides many benefits in the form of increasing access to rich media. However, because of the sensitive nature of some video assets, many customers want to limit access to different users or groups of users. VBrick's EtherneTV Portal Server allows Administrators to setup the system in just this manner. The ETV Portal Server makes it easy to provide different Users or User Groups access to different resources. The ETV Portal Server Access Control system allows administrators to allow/deny access to the portal server for Windows-based PCs, Macintoshes, and Set-Top Boxes:

- Viewing of certain Live Channels
- Viewing of stored content from specific VoD folders
- Publishing content to specific VoD folders
- Recording content to a specific VoD folder
- Allow the viewing of content from only specific VoD servers on the network
- The ability to place bandwidth restrictions for viewing content
- The ability to limit certain users to only access Multicast or RTSP (unicast) content
- The ability to group content resources (Live Channels and/or VoD content) into Resource Groups, which allows the setup and modification of the Access Control functionality to take place much more easily.

The ETV Portal Server is permissive by default, meaning, authentication is not enabled and access to the entire functionality of the server is allowed. However, to follow good security practices, once the Access Control functionality is enabled on the Portal Server, all resources are by default *not* available to any users. Administrators need to provide access to resources to different users or user groups.

Topics in this chapter

Overview

STB Authentication

Users

User Groups

Resource Groups

Definitions

The ability to provide different users different access to resources on a network is typically referred to as access control, authentication and authorization, and/or access management. VBrick refers to this functionality as Access Control. In order to fully understand the range of

functionality of the ETV Portal Server Access Control system, it is beneficial to define some of terms that will be used throughout the remainder of this document.

Authentication

Authentication is the process of identifying an individual, usually based on a username and password. In security systems, *authentication* is distinct from *authorization* (see below), which is the process of providing individuals access to resources based on their identity. Authentication merely ensures that the individual is who he or she claims to be, but says nothing about the access rights of the individual.

The ETV Portal Server Access Control system allows administrators to authenticate users against the ETV Portal Server database or authenticate users against an LDAP directory. More details on the different authentication databases are given below.

Authorization

Authorization is the process of granting or denying access to a network resource. Most computer security systems are based on a two-step process. The first stage is *authentication*, which ensures that a user is who he or she claims to be. The second stage is *authorization*, which allows the user access to various resources based on the user's identity. In the ETV Portal Server, all authorization is done directly on the ETV Portal Server, through the ETV Portal Server database.

LDAP

LDAP stands for Lightweight Directory Access Protocol which is a set of protocols for accessing information directories. The LDAP standard defines both a network protocol for accessing information from the directory and an extensible structure for defining how the information is organized in the directory. The advantage of using an LDAP directory is centralized management of users. For example, a new user needs only to be entered once into the LDAP directory and all future modifications to that user can be done in the same central location. Different applications can authenticate and/or authorize users against the LDAP directory.

There are numerous LDAP directory products on the market today, but the most popular are Microsoft Active Directory, Novell eDirectory, Sun iPlanet, and OpenLDAP. *VBrick supports major LDAP vendors but only Microsoft Active Directory and Novell eDirectory are fully tested and supported.*

VBrick Database

The ETV Portal Server server ships by default with the MySQL database, which is a fully ODBC-compliant database. (Open Database Connectivity is a standard database access method.) For those environments that have not migrated to an LDAP directory-based user management system, all of the authentication functionality can be done directly in the ETV Portal Server database itself. Also, for those environments that are using LDAP directories for Authentication, all of the Authorization functionality also takes place in the ETV Portal Server database. Additionally, to reduce the chance of system lockout, all Administrative Users are located in the ETV Portal Server database.

Resources and Resource Groups

In the ETV Portal Server, providing a user with Resources refers to providing them access to a particular functionality of the EtherneTV system. These include the ability to view Live

Channels, to view VoD content, to publish content to the VoD, and to record content or schedule a recording. A unique feature of the ETV Portal Server software is the ability to group Resources into Resource Groups. This allows the administrator to quickly and easily assign several resources at once to specific Users or User Groups.

STB Authentication

There are two ways (STP IP address or user PIN) to authenticate and authorize Set-Top Boxes in the ETV Portal Server. STB access control is slightly different from PC and Macintosh-based authentication (which uses the commonly employed User Name and Password mechanism). The two methods are outlined in the table below.

Method	Description	User Interaction	Comment
User PIN	If Access Control is enabled, but the STB is not defined in the system, then Access Control works based on a User PIN. This PIN is defined on a **Per User** (not Per STB) basis, so that Users need to be setup in the system for this to work.	When the user logs into the system, they will be prompted for their PIN. The user simply enters the PIN with the remote control or the wireless keyboard, and can then access the video.	This implementation is appropriate for environments where multiple users with different privileges will be accessing the same STB. An example of this would be a shared classroom, where multiple teachers are accessing the STB at different times.
STP IP Address or Host Name	The ETV Portal Server system determines the content that the STB can view based on its IP Address or Host Name.	No user interaction is required. The user simply turns on the STB, and only the content that the STB user can view displays.	This implementation is similar to a cable TV setup, e.g. if the cable plan does not include CNN, then that channel cannot be viewed. This implementation is easiest for end users because you do not have to remember user names or PINs. It is appropriate for environments where one or few people with the same privileges access the same STB.

Authentication by PIN

When an end user accesses the ETV Portal Server via a STB, the Portal Server takes the following steps to authorize users.

1. It determines if there is Authentication/Authorization information associated with the Host Name of the STB. If so, based on the STB Host Name, the ETV Portal Server will present the STB with the information appropriate to its privileges. Note that the ETV Portal Server uses the least restrictive settings when providing access to the system.

2. If there is no Authentication/Authorization information associated with the Host Name of the STB, the user will be prompted for a PIN. A PIN is a user-based mechanism to log onto the STB. When the user enters his or her PIN, the ETV Portal Server authenticates the user against the Portal Server database.

3. Once the user is authenticated, the ETV Portal Server will check the User Groups and/or Resource Groups that the User is associated with and the privileges associated with those groups.

4. After checking the Groups privileges, the ETV Portal Server will check for any individual user privileges above the group privileges.

5. The user will be presented with the information appropriate to their privileges. Note that the ETV Portal Server uses the least restrictive settings when providing access to the system.

If Authentication and Authorization is enabled, but the STB is not defined in the system, then Access Management works based on a User PIN. This PIN is defined on a **Per User** (not Per STB) basis, so Users need to be setup in the system for this to work. When the user accesses the ETV Portal Server through the STB, they will be prompted for their PIN. The user simply enters the PIN with the remote control or the wireless keyboard, and can then access the video for which they have privilege. This implementation is appropriate for environments where multiple users with different privileges will be accessing the same STB. An example of this would be a shared classroom, where multiple teachers are accessing the STB at different times.

Authentication by IP Address

The ETV Portal Server determines the content that the STB can view based on its IP Address or Host Name. No user interaction is required. The user simply turns on the STB, and only the content that the STB user can view displays. This implementation is similar to a Cable Television setup – for example, if the plan does not include HBO, then that channel cannot be viewed. This implementation is easiest from the end user perspective because end users do not have to remember user names or PINs. This implementation is appropriate for environments where multiple people can access the same STB.

The following steps provide best practices for properly configuring the Access Control section of the ETV Portal Server.

1. Setup and Configure the EtherneTV System

The following products need to be setup and properly configured prior to configuring Access Control.

1. **ETV Portal Server** – The ETV Portal Server needs to be properly setup and configured on the network. The following items should be configured in the Portal Server interface:

– If there is a VoD server(s) in the system, the proper addresses for these servers need to be entered into the Portal Server Administrative pages and connectivity to those servers should be ensured.

– The folder structure on the VoD server should be defined (even if there is no content in these folders) as folders are how the Access Control functionality provides access to end users to view VoD content, publish content, and record content. When setting up the folder structure, the Administrator should be thinking about how they plan to provide access to different groups of users. For example, if a corporation wanted to provide certain content to the Engineering group and certain content to the Marketing group, then they would want to set up an Engineering folder and a Marketing folder on their VoD server.

– If there are live streams on the network, then those streams should be provided a channel number if the Administrator wants to provide access to live streams via channel number.

– If security is a concern, SSL should be turned on between clients and the ETV Portal Server server. This allows User Names and Passwords to be encrypted between the client and the server. See the section <u>Configuring for SSL</u> on page 61 for instructions on how to configure this.

2. **VBrick** – If there are VBricks in the network, they are auto-discovered but still need to be added to the Portal Server database.

3. **VoD Server** – If there are VoD servers in the network, again they need to have connectivity to the Portal Server and the folder structure needs to be configured.

4. **Set-Top Boxes** – If there are STBs to be deployed in the system, they should be configured with a Host Name, and should be configured to point to the ETV Portal Server.

Additionally, if an LDAP server is going to be used to authenticate users, then the administrator should know the address of the server, the group structures on the LDAP server, and the Context (if the server is not Microsoft's Active Directory).

Note   In order to scan the Groups available in Microsoft's Active Directory, in Windows Explorer, go to **Tools > Folder Options**. On the **General** tab, make sure that the **Show common tasks in folders** is selected. Then go to **Start > My Network Places** and select **Network Tasks > Search Active Directory**.

---

2. Choose an Authentication Method

Select one of the following methods:

ETV Portal Server User Database	The native ETV Portal Server user database provides local authentication for users and administrators.
LDAP Directory Server	Enables the ETV Portal Server to authenticate against, and retrieve user and group data from, an existing LDAP server.

Both methods can be used simultaneously. If LDAP authentication is enabled, the ETV Portal Server will attempt to authenticate against the LDAP server first, and if this is unsuccessful, will attempt to authenticate against the local ETV Portal Server User Database.

VBrick Database

If authentication is enabled, you must select a database (either VBrick or LDAP). The VBrick (ETV Portal Server) user database contains user, group, and resource information that provides the Portal Server with information to allow it to provide the appropriate privileges to users and Set-Top Boxes that are accessing the system. Administrators should authenticate users with the native Portal Server user database if:

• User authentication is required, but the organization does not have an LDAP server.

• For STBs, the organization wishes to use User PINs. Since User PINs are not available in the LDAP directory, the users need to be created in the ETV Portal Server database (Note: only those users that need PINs to access STBs need to be created in the ETV Portal Server database. PC or Mac users can still be authenticated against LDAP).

LDAP Directory Server

An LDAP directory server contains User and Group information which the ETV Portal Server can authenticate against to verify User's identities. The Portal Server then uses this information to authorize users to access the system. Administrators should authenticate users with an LDAP Directory server if:

- The organization has an LDAP server that they actively manage to allow products to authenticate.
- The ETV Portal Server administrator can obtain the necessary configuration information from the LDAP administrator to allow the authentication to occur.

Using LDAP reduces the amount of administrative time necessary to add and modify users from the ETV Portal Server system. VBrick Systems encourages customers who have LDAP directories implemented to use them for authentication with the ETV Portal Server.

3. Create User Groups on the Portal Server

Grouping users is common practice and makes administering access to the ETV Portal Server less complicated than administering access by individual user. The ETV Portal Server allows the administrator to create groups, specify group memberships for users, and set access privileges for the group. A user can be a member of one group or multiple groups. Group access privileges also can be set and modified on a per group basis.

If an LDAP directory is being used for Authentication, the same group information that is available in the directory can be used to Authorize end users to access the ETV Portal Server. For example, if the organization has three User Groups in its LDAP directory—Marketing, Engineering, and Sales—they can simply create these groups in the ETV Portal Server system, and assign privileges to the groups.

4. Create Resource Groups on the Portal Server

In the Portal Server software, providing a user with Resources refers to providing them access to a particular functionality of the EtherneTV system. These include the ability to:

- View Live Channels.
- View VoD content.
- Publish content to the VoD.
- Record content or schedule a recording.
- Launch an emergency broadcast.

A unique feature of the Portal Server software is the ability to group Resources into Resource Groups. This allows the administrator to quickly and easily assign several resources at once to more than one User or User Groups. This also makes the ongoing management of this content for these Users or User Groups much easier.

For example, if the organization has three User Groups – Marketing, Engineering, and Sales – they might create four resource groups. These Resource Groups would be Full Access, which are resources that everyone can see, and one Resource Group for each of the user groups. Full Access would be assigned to all user groups, and the Marketing Resource Group would be assigned to the Marketing User Group, the Engineering Resource Group to the Engineering User Group, and the Sales Resource Group to the Sales User Group.

Resource Groups provide the added bonus that they allow the Administrator to quickly provide access to new content to Users and User Groups. For example, if the organization originally had ten Live Channels on the network, and another Live Channel was added, the Administrator would simply need to add that Channel to the appropriate Resource Groups and the channel would be available.

5. Create Users on the ETV Portal Server

Creating users is an optional step that can be completed for the following reasons.

- The organization needs to provide a single user with additional privileges above and beyond what is available to his or her User Group or Resource Group.
- The organization wants to authenticate STB users using a PIN.
- Users can be assigned to multiple User Groups.

6. Assign Resources to Users or User Groups

The final step is to provide access to Resources to Users and/or User Groups. The administrator can assign individual resources to Users or User Groups, or can assign Resource Groups (if created) to Users or User Groups. Detailed information on the steps to configure access control and provide access to resources to Users and/or User Groups is provided in the following sections.

Users

There are several different ways to provide privileges to different User and User Groups with the ETV Portal Server. The easiest way is to use the group structure of an existing LDAP database. LDAP User Groups can be added to the ETV Portal Server system and assigned permissions (see User Groups below). All of the users in this group will have the same permissions. For ease of implementation, VBrick recommends configuring User Groups and Resource Groups (see these sections below), prior to configuring users.

However, if further individual permissions need to be assigned, administrators can add them as a user. Under the users section, administrators have the ability to add, modify and delete users. Submit may be pressed at anytime during the process or can be done when everything has been added/modified. Users will have the permissions of the group as well as the additional permission that are assigned to them. The ETV Portal Server is additive in its permissions, meaning that it takes all of the permissions that are provided to a particular user and provides all of these to the user.

Users can be added by using the VBrick Database if LDAP authentication is not available or desired. Finally, in order to assign user PINs to access Set-Top Boxes, a user assignment is needed (see Set-Top Box Authentication section below). Note that STB PIN access is dependent on the VBrick Database being enabled. See <u>Access Control</u> on page 36 for details.
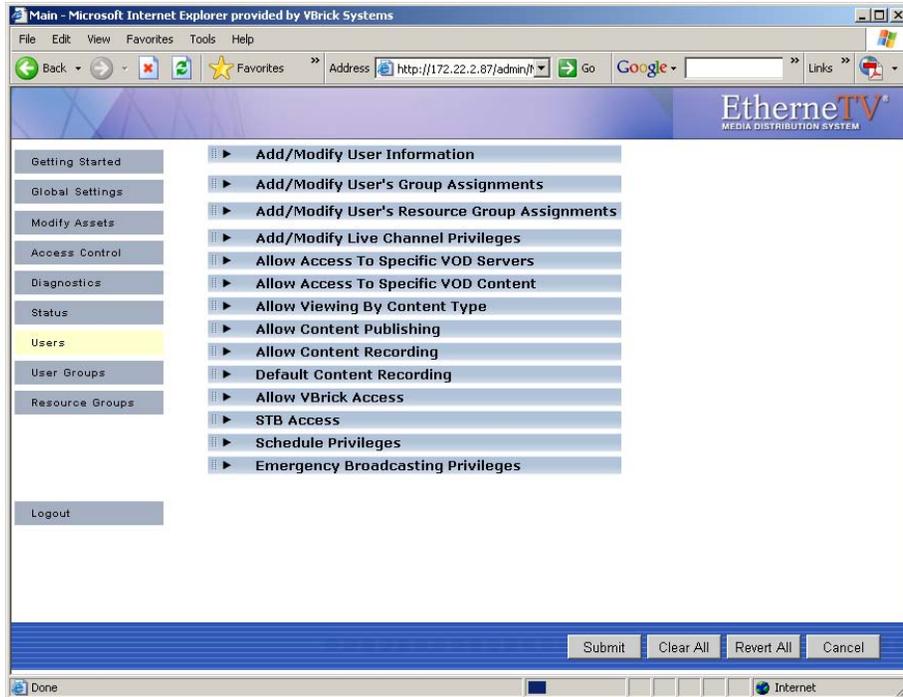
Submit	Save changes and/or navigate to the next window.
Add New	Takes the administrator to the Add New User, User Group, or Resource Group screen (depending on which section you are in)
Clear All	Clears any entries that have been entered in the individual sections.
Revert All	Returns all entries to the last state entered in the database. This selection is important if a mistake is made during entry.
Cancel	Cancels out of the page. Changes are not saved.
Clear	Clear eliminates or de-selects any entries in the particular section.
Revert	Returns the selection to the last state entered in the database. This selection is important if a mistake is made during entry.

Once all selections have been made, you can press **Submit** in the bottom right hand corner of the screen (or any of the other buttons shown above) to submit the information to the database. User privileges include the following options:

Add/Modify User Information

Add/Modify User's Group Assignments

Add/Modify User's Resource Group Assignments

Add/Modify Live Channel Privileges

Allow Access to Specific VOD Servers

Allow Access to Specific VOD Content

Allow Viewing by Content Type

Allow Content Publishing

Allow Content Recording

Default Content Recording

Allow VBrick Access

STB Access

Schedule Privileges

Emergency Broadcast Privileges

Add/Modify User Information

To add or modify users, select **Users** from the navigation bar on the left.

User	**User** – Use this option if the EtherneTV system will be accessed by a PC or Mac user, or if Users will be authenticated to STBs via PIN numbers. This access is not limited to a specific PC or STB.
	Set Top Box – Use this option if the EtherneTV system will be accessed via a STB attached to a television or other video display. If Set-Top Box is selected, then the privilege to the system will be on a per STB basis. The authentication will take place automatically, so no end user interaction is required. When choosing STB, the STB's host name or IP address must be entered, as well as an optional location/description of the STB.
Username	To authenticate using an LDAP database, the user name must match exactly what is in the LDAP database (the Portal Server is case sensitive). A new user can also be assigned (if using the VBrick database option) that does not exist in the LDAP database.
Password	For LDAP authentication a password is not needed (the user will use their normal network login password). If using the VBrick database a password must be entered (passwords are case sensitive).
STB Pin	Optional. A PIN number can be assigned to a user that allows them to access their content from any STB, regardless of the STB's privilege level. This works well when an STB is going to be a shared resource. Note: STB PIN access is dependent on VBrick Database being enabled.
First Name	Optional. User First Name.
Last Name	Optional. User Last Name.
E-mail address	Optional. User e-mail address.
Location	Optional. User location.

Assigning Privileges to Users

There are three ways to assign privileges to users:

• Assign the User to a User Group that has privileges assigned to it.
• Assign the User to a Resource Group that has privileges assigned to it.
• Individually assign resources to the User.

These methods all can be combined. For example, to provide a User with access to the resources provided to a User Group but also provide them access to additional resources, the administrator can a) Assign the User to that Resource Group and b) Individually assign the additional resources to that user. Each of these methods is discussed below.

Add/Modify User's Group Assignments

Users can be assigned to specific User Groups, and they will inherit the privileges of that group. If no User Groups appear, then none have been defined. Click User Groups in the main navigation to the left to create User Groups.

Add/Modify User's Resource Group Assignments

Users can be assigned to specific Resource Groups, and they will inherit the privileges of that Resource Group. If no Resource Groups appear, then none of been defined. Click Resource Groups in the main navigation to the left to create Resource Groups.

Add/Modify Live Channel Privileges

A list of available live video streams will be displayed. A user can be provided access to all live streams or specify individual streams.

Note	For live streams that have channel assignments, both the Channel Number and the Program Name will appear in the Channel list. If the Channel number is selected, the ETV Portal Server will always provide access to the particular channel (for example, Channel 1) even if the Program Name of that channel changes. If the Program Name is selected, the ETV Portal Server will always provide access to the Program Name (for example, CNN), even if the channel that it is associated with changes (for example, from Channel 2 to Channel 4).

Allow Access to Specific VOD Servers

Choose from a list of available NXG On-Demand Server(s) to which a user can have access. A user can have access to multiple servers. This feature is particularly useful when VoD servers are located in different physical locations that are separated by low bandwidth links. For example, if a company has offices and VoD servers in both New York and Chicago, and these offices are separated by a T-1 link, then they would want to limit the users in the Chicago office to the Chicago VoD server and those in New York to the New York VoD server.

Note	When a user is provided access to particular NXG Video-on-Demand server(s), and they are given the privilege to Publish or Record to a particular folder, when they Publish or Record, the video will be Published or Recorded to each server that they have access to. This is important for clustering purposes.

Allow Access to Specific VOD Content

Choose from a list of folders to which a user can have access. A user can have access to multiple folders on multiple servers. If the user has access to multiple VoD servers, and the folder names are the same on both servers, only one folder name will show up in the list.

Allow Viewing by Content Type

The Administrator can limit the types of content that a user can view and/or limit the bandwidth that specific users can view. Note that this setting does not apply to URLs that were manually added by an administrator (see URLs on page 29).

Do Not Allow Multicast viewing	This will limit users that are on a non-multicast capable part of the network from trying to view multicast video.
Restrict Multicast to ___ Kbps	This will limit users to only viewing multicast streams that are a certain size or smaller. This works well to maintain bandwidth utilization over a particular WAN port.
Do Not Allow RTSP viewing	This will limit users from viewing RTSP Unicast Streams from MPEG-4 Encoders and from accessing RTSP unicast streams from a Video-on-Demand server (MPEG-1, MPEG-2, or MPEG-4). This works well to maintain bandwidth utilization over a particular LAN or WAN port.
Restrict RSTP viewing to ___ Kbps	This will limit users to only viewing RTSP streams that are a certain size or smaller. This works well to maintain bandwidth utilization over a particular LAN or WAN port.

Allow Content Publishing

Administrators can allow a user the ability to publish content to folder(s) on an NXG Video-On-Demand Server. This function allows the user access to the **Add Video** page, where users can add pre-recorded video content to a VOD. It also allows users to (1) create (and upload) **Thumbnails** for video files in the folders to which they can publish, to (2) delete video content from the VOD server, and (3) to add keyword and description data using the **Modify Info** button. To prevent users from deleting content, be sure this option is disabled.

Note   If users are provided access to more than one VoD server, when they publish content, it will be published to each of the servers to which they have access. This is important for clustering purposes.

Allow Content Recording

Used for scheduled recording. Administrators can allow a user the ability to schedule the recording of live content to a specific folder(s) on an NXG Video-On-Demand Server. They cannot record content to any other folder(s). You must select a folder here to enable **Default Content Recording** below. If there is no schedule license, **Allow Content Recording** is not shown as an option and **Default Content Recording** lets you select any folder. If you add a schedule license later (using **Start > Control Panel > Add or Remove Programs)**, **Allow**

Content Recording will be shown as an option with all folders selected. You may want to unselect specific folders in order to restrict recording privileges.

Default Content Recording

Used for on-demand recording. You must select a folder above for **Allow Content Recording** before you can make a folder selection here. Administrators can allow a user the ability to record live content to a specific default folder on an NXG Server by pressing the **Record** push button below the Preview Window. For ease of use, the Administrator can only assign one default folder where a particular user can record content. This allows one button recording on the ETV Portal Server and is particularly important for Set-Top Box users, who may not be able to enter a recording path with their IR remote control.

Allow VBrick Access

Administrators can allow a user the ability to access all VBricks or only specific VBricks when scheduling events. When scheduling an event, users will see only those VBricks for which they have been granted access.

STB Access

Administrators can allow a user the ability to access all STBs or only specific STBs when scheduling events. When scheduling an event, users will see only those STBs for which they have been granted access.

Schedule Privileges

Users may have full, partial, or no permission to schedule VBrick event. Users with full privileges can modify all configuration parameters in a schedule. Users with partial privileges *cannot* modify **Advanced Settings**.

Emergency Broadcast Privileges

Administrators can specify whether or not a user can launch Emergency Broadcasts.

User Groups

Grouping users is common practice and makes administering access to the ETV Portal Server less complicated than administering access by individual user. The ETV Portal Server server allows the administrator to create User Groups, specify group memberships for users, and set access privileges for the group. A user can be a member of one group or multiple groups. Group access privileges also can be set and modified on a per group basis.

If an LDAP directory is being used for Authentication, the same group information that is available in the directory can be used to Authorize end users to access the ETV Portal Server. For example, if the organization has three User Groups in its LDAP directory—Marketing, Engineering, and Sales—they can simply create these groups in the ETV Portal Server system, and assign privileges to the groups.
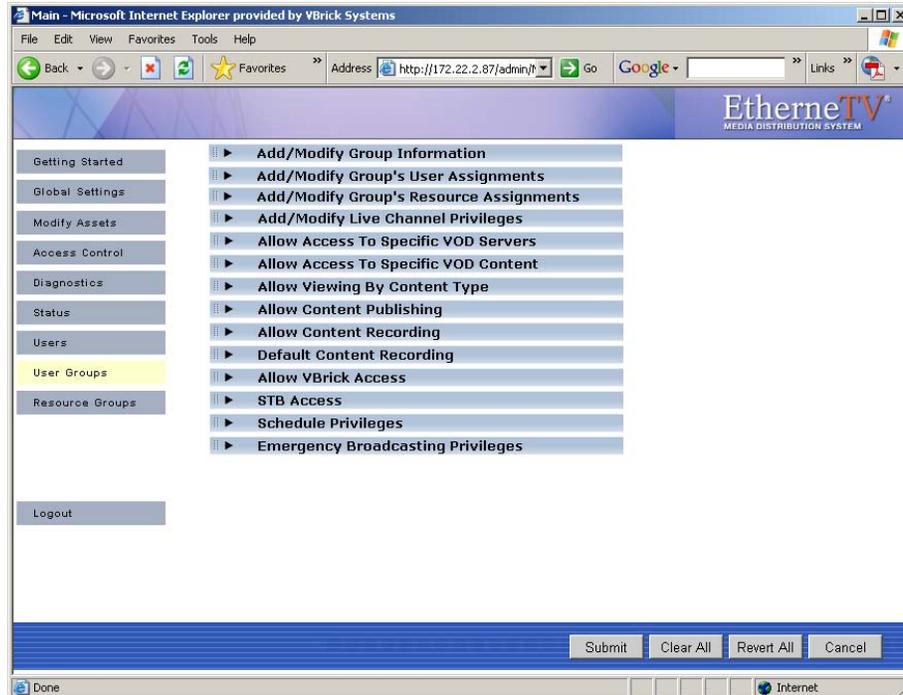
Add/Modify Group Information

If LDAP is being used for authentication, then the group name has to exactly match the group name in the LDAP directory. If LDAP is not being used, Group Names can be entered directly into the ETV Portal Server database. If Microsoft's Active Directory is used, to find the available list of active groups in **Windows XP**, browse to **My Network Places** and click on the left-hand menu **Search Active Directory**. A new window will open. Click **Find now** to see all available groups. In **Windows 2000**, go to **My Network Places > Entire Network > Directory**, the domain, and **Users**.

Note Windows XP needs to be configured to **Show Common Tasks in Folders**. To configure this, in **My Network Places**, go to **Tools > Folder Options**. In the **General > Tasks** section, select the radio button called **Show common tasks in folders**.

Add/Modify Group's User Assignments

Users can be assigned to specific User Groups, and they will inherit the privileges of that group. If no Users appear, then none have been defined. However, if LDAP is being used for Authentication, no users need to be defined. When a user Authenticates to the system, the Authentication process will return the User's group information. The user will receive the privileges that are provided to that group.

Add/Modify Group's Resource Assignments

Resource groups can be assigned to User Groups, and the User Group will inherit the privileges of that Resource Group. If no Resource Groups appear, then none of been defined. Click **Resource Groups** in the main navigation to the left to create Resource Groups.

Note   The remaining options for **User Groups** (beginning with **Add/Modify Live Channel Privileges**) are the same as those described earlier for individual <u>Users</u> on page 51. The only difference is that the descriptions will apply to groups of users rather than to individual users.

Resource Groups

In the ETV Portal Server software, providing a user with Resources refers to providing them access to a particular functionality of the EtherneTV system. These include the ability to view Live Channels, to view VoD content, to publish content to the VoD, and to record content. A unique feature of the ETV Portal Server software is the ability to group Resources into Resource Groups. This allows the administrator to quickly and easily assign several resources at once to more than one Users or User Groups. This also makes the ongoing management of this content for these Users or User Groups much easier.
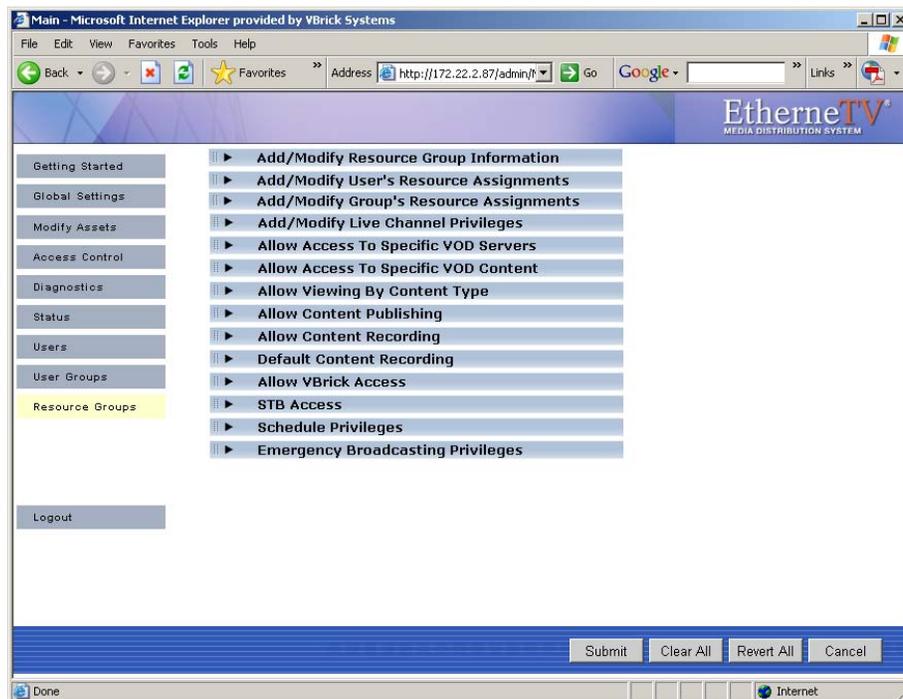
For example, if the organization has three User Groups—Marketing, Engineering, and Sales—they might create four resource groups. These Resource Groups would be Full Access, which are resources that everyone can see, and one Resource Group for each of the user groups. Full Access would be assigned to each user group, and the Marketing Resource Group would be assigned to the Marketing User Group, the Engineering Resource Group to the Engineering User Group, and the Sales Resource Group to the Sales User Group.

Resource Groups provide the added bonus that they allow the Administrator to quickly provide access to new content to Users and User Groups. For example, if the organization originally had ten Live Channels on the network, and another Live Channel was added, the Administrator would simply need to add that Channel to the appropriate Resource Groups and the channel would be available.

Add/Modify Resource Group Information

Add the Resource Group Name that is relevant for the Resource Group being created.

Add/Modify User's Resource Assignments

Users can be assigned to specific Resource Groups, and they will inherit the privileges of that Resource Group. If no Users appear, then none have been defined. Click on the Users section to add Users.

Add/Modify Group's Resource Assignments

User Groups can be assigned to Resource Groups, and the User Group will inherit the privileges of that Resource Group. If no User Groups appear, then none have been defined. Click User Groups in the main navigation to the left to create User Groups.

Note   The remaining options for **Resource Groups** (beginning with **Add/Modify Live Channel Privileges**) are the same as those described earlier for individual <u>Users</u> on page 51. The only difference is that the descriptions will apply to resource groups rather than to individual users.

Configuring for SSL

Overview

Whenever there is concern regarding confidentiality and integrity of data being sent between ETV Portal Server web server and external clients, the ETV Portal Server web server login page and all administration pages should be configured with a digital X.509 certificate to enable SSL encryption. Secure Sockets Layer (SSL) is a set of cryptographic technologies that provides secure communications. SSL can be used between client browsers and ETV Portal Server web server to create a secure communication channel. It should also be used between the ETV Portal Server and any LDAP directory server that is not Microsoft's Active Directory. Because the Portal Server software runs on a Windows 2000 or Windows 2003 server, the communication between the ETV Portal Server and Active Directory is automatically secured using Microsoft's security scheme.

However, communications between the ETV Portal Server and other LDAP directories is not automatically secured. Please refer to the LDAP server documentation for instructions on how to setup SSL between the ETV Portal Server server and the LDAP directory server.

▼   To set-up SSL for client access to the ETV Portal Server web server:

1. Generate a Certificate Request
2. Submit a Certificate Request
3. Install the Certificate on the ETV Portal Server web server
4. Configure Resources to Require SSL Access

Generate a Certificate Request

If your company does not have an X.509 certificate, or does not have one for the ETV Portal Server web server, a new certificate request must first be created.

▼   To generate a certificate request:

1. From the ETV Portal Server web server Macintosh, start the Microsoft Internet Information Service (IIS) Manager.
2. Expand the server name and select the web site for which the certificate will be installed.
3. Right-click the web site, and then click **Properties**.
4. Click the **Directory Security** tab.
5. Click the **Server Certificate** button within **Secure** communications to launch the Web Server Certificate Wizard.
6. Click **Next** on the welcome dialog box.
7. Click **Create a New Certificate** and then click **Next**.

    If **Create a New Certificate** is unavailable, the certificate has probably been installed already. If that is the case, skip the rest of steps, and go to the Configure Resources to

Require SSL Access section. If it is desired to create a new certificate for ETV Portal Server web server, click **Remove the current certificate** to remove the certificate first, and then restart the procedure.

8. Click **Prepare the request now**, **but send it later** and then click **Next**.

9. Type a descriptive name for the certificate in the **Name** field, type a **Bit length** for the key in the Bit length field, and then click **Next**.

10. Type an organization name (such as VBrick) in the **Organization** field and type an organization unit (such as Sales Department) in the **Organizational unit** field, and click **Next**.

    This information will be placed in the certificate request, so make sure it is accurate. The Certificate Authority will verify this information and will place it in the certificate. A user browsing the ETV Portal Server web server will want to see this information in order to decide if they should accept the certificate.

11. In the Common name field, type a common name, and then click **Next**. (**Important**: The common name is one of the most significant pieces of information that ends up in the certificate.)

12. Enter the appropriate information in the **Country/Region**, **State/province**, and **City/locality** fields, and then click **Next**.

13. Enter a file name for the certificate request. The file contains information similar to the following.

    ```
    -----BEGIN NEW CERTIFICATE REQUEST -----
    MIIDZjCCAs......
    -----END NEW CERTIFICATE REQUEST-----
    ```

    This is a Base 64 encoded representation of the certificate request. The request contains the information entered into the wizard and also your public key and information signed with your private key.

14. Click **Next**. The wizard displays a summary of the information contained in the certificate request.

15. Click **Next** and then click **Finish** to complete the request process.

Submit a Certificate Request

If a CA-signed Certificate from a trusted Certificate Authority (such as VeriSign or Thawte) is going to be purchased, the certificate request can now sent to a CA for verification and processing. After the certificate response is received from the CA, the installation process can continue on the ETV Portal Server web server. Purchasing a CA-signed certificate adds to the security of the system, but also adds costs. Non-CA signed certificates will cause a security alert in the browser upon the first access to the server.

Install the Certificate

▼ To install the certificate on the ETV Portal Server web server:

1. Start Internet Information Services, if it's not already running.

2. Expand the server name and select the web site for which the certificate will be installed.

3. Right-click the web site, and then click **Properties**.

4. Click the **Directory Security** tab

5. Click **Server Certificate** to launch the Web Server Certificate Wizard

6. Click **Process the pending request and install the certificate** and then click **Next**.

7. Enter the path and file name of the file that contains the response from the CA, and then click **Next**.

8. Examine the certificate overview, click **Next**, and then click **Finish**.

A certificate is now installed on the ETV Portal Server web server.

Configure Resources for SSL

After installing the certificate on the ETV Portal Server web server, the ETV Portal Server can now be configured to require SSL access.

▼ To configure ETV Portal Server for SSL access:

1. Start Internet Information Services, if it's not already running.

2. Right click on **Default Web site**. Select **Properties**.

3. Go to the **Directory Security** tab.

4. Under **Secure communications**, click **Edit**.

   If the **Edit** button is not available, the certificate may not have been installed correctly. Go back to Install the Certificate on the ETV Portal Server web server section, and verify that the certificate is installed.

5. Click **Require secure channel (SSL)** check box.

6. Client's browsing to file must now use HTTPS protocol.

7. Click **OK**, and then click **OK** again to close the Properties dialog box.

8. Alternatively, if only the Logon pages and the admin pages need to be secured, right-click the following files, one at a time, and then click **Properties**.

   `Login.aspx` (Select **File Security** rather than Directory Security)

   `Admin`

9. Repeat Steps 3–6 for both files for all required ETV Portal Server resources configured.

10. Close **Internet Information Services**.

Auto Content Ingestion

Topics in this chapter

Overview

Removing Closed Captions

Overview

It is possible to FTP prerecorded content or copy prerecorded content to the ETV Portal Server for easy ingestion to the NXG server. The ETV Portal Server periodically (every 5 minutes) polls certain folders for presence of content and if found ingests the content onto multiple NXG servers. This process is called *Automatic Content Ingestion* or *Auto-ingestion*. The content can come from a VBrick VBSTAR or a file recorded with StreamPlayer Plus.

The content should be placed in a pre-defined sub-folder (`mcs\autoingest`) under the FTP root folder. This pre-defined folder is called the *auto-ingest root folder*. For example, if the FTP root is at `c:\inetpub\ftproot`, the content could be placed anywhere under `c:\inetpub\ftproot\MCS\AutoIngest`. In this example the *auto-ingest root is* `c:\inetpub\ftproot\MCS\AutoIngest`.
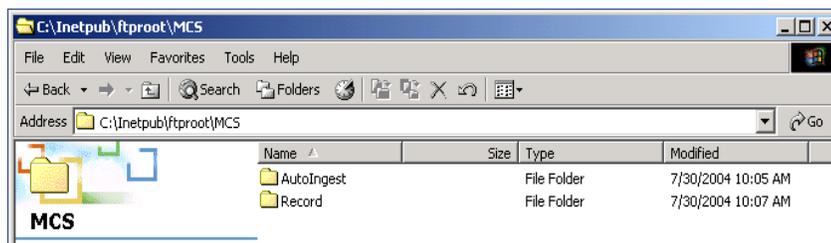
Note   The default FTP path may be on a different drive, refer to the IIS default FTP configuration to confirm.

Content that is placed under the auto-ingest root folder on the ETV Portal Server will be ingested into the root video folder on the NXG server provided that it is configured using the ETV Portal Server Administrator interface. If it is desired to place content on a subfolder in the NXG server, that same folder would have to be created and configured using the ETV Portal Server Administrator Interface as described below.

Go to **Global Settings > Servers > Add-Modify On-Demand Folders**. Here an existing or new folder can be associated with select NXG Servers for auto-ingestion. The folders are listed on the left with the path relative to auto-ingest root. The NXG servers are listed on the right inside the Add-Modify Folders on Selected Servers box. Select the desired folder and then select the target NXG servers to ingest content. Press **Submit**. The folder is now created under the auto-ingest root folder and configured.

Example: If under the root video folder on the NXG Server you had a folder (or want to create a folder) called `Training` and you wanted `trainingvideo.mpg` to be placed there.
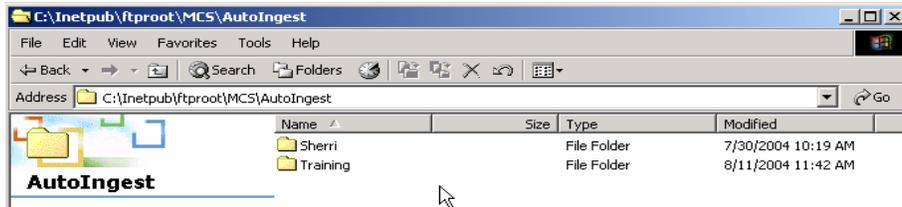
FTP the file to the Portal Server into
`<drive:>\inetpub\ftproot\mcs\autoingest\training\`
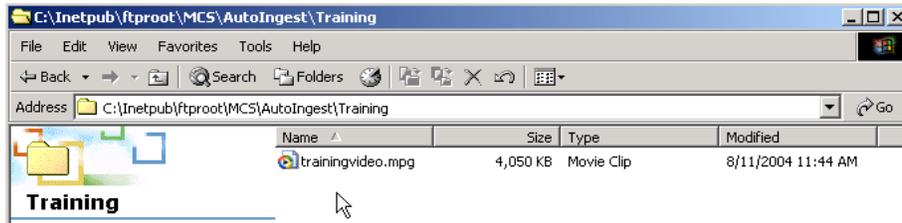
The ETV Portal Server will then ingest the file automatically into the folder on the NXG server(s) that this folder is associated with. The file `trainingvideo.mpg` would be displayed on the ETV Portal Server user interface in the Training Folder.

Removing Closed Captions

MPEG-4 files with closed captions cannot be added to the EtherneTV-NXG Video-on-Demand server until the closed caption track is removed. The ETV Portal Server will display an error message if you try to add such files. VBrick provides a utility to remove the closed captions track from an MPEG4 file if necessary. It is installed with ETV Portal Server in
`c:\program files\vbrick\utils`

▼ To remove the closed captions track from MPEG-4 files:

1. Go to `c:\program files\vbrick\utils` and double-click `CCTrackRemover.exe`

2. Enter an **MPEG-4 File Name** and click **Remove CC Track**. Depending on the size of the file it may take a few moments to complete.

3. When done, you can add or autoingest the video file as necessary.

Index

ETV Portal Server 2

F

Features, Administrative 5
Fields, Custom 14
Folders, Add/Modify On-Demand Content 18

G

Global Assignments 11
Group Assignments, Add/Modify User's 54
Group Assignments, Add/Modify User's Re-
source 54
Group Information, Add/Modify Resource 59
Group Information, Add/Modify 57
Group's Resource Assignments, Add/Modify 57,
59
Group's User Assignments, Add/Modify 57
Groups on the MCS Server, 3. Create User 50
Groups, Resources and Resource 46
Groups, 6. Assign Resources to Users or User 51
Groups, Resource 58
Groups, User 56

H

Help 44

I

Information, Add/Modify Resource Group 59
Information, Add/Modify Group 57
Information, Add/Modify User 53
Ingestion, Auto Content 65
Install the Certificate 62
Installing the Root Certificate 40
Introduction 1
IP Address, Authentication by 48

L

LDAP 46
Link, Add 16
Live Channel Privileges, Add/Modify 54
Live Video Stream, Add/Modify a URL for a 29
Log-in 9
Login, Administrator 9
Logout 44

M

MCS Server, 5. Create Users on the 51
MCS Server, 3. Create User Groups on the 50
Media Control Server 2
Method, 2. Choose an Authentication 49
Modify VOD Content 36

MySQL 2

O

On-Demand Content Folders, Add/Modify 18
On-Demand Servers, Add/Modify Video 17
Only), Non-Video to Content (PC Users 31
Options, Administrator 9
or User Groups, 6. Assign Resources to Users 51
Overview 1, 9, 45, 65

P

PIN, Authentication by 47
Privileges to Users, Assigning 53
Privileges, Emergency Broadcast 56
Privileges, Schedule 56
Privileges, Add/Modify Live Channel 54
Publishing, Allow Content 55

R

Recorders 24
Recording, Allow Content 55
Recording, Default Content 56
Request, Generate a Certificate 61
Request, Submit a Certificate 62
Requirements 3
Requirements, Desktop 3
Requirements, Server 3
Resolving Other Security Alerts 42
Resource Assignments, Add/Modify Group's 57,
59
Resource Assignments, Add/Modify User's 59
Resource Group Assignments, Add/Modify Us-
er's 54
Resource Group Information, Add/Modify 59
Resource Groups, Resources and 46
Resources and Resource Groups 46
Resources for SSL, Configure 63
Resources to Users or User Groups, 6. Assign 51

S

Schedule Privileges 56
Script Devices 26
Scripts 27
security requests 1
Server Requirements 3
Server, Media Control 2
Servers, Allow Access to Specific VOD 54
Servers 17
Servers, Add/Modify Video On-Demand 17
Server, 5. Create Users on the MCS 51
Server, EtherneTV-NXG Video-on-Demand 5

VBrick Systems, Inc.
12 Beaumont Road
Wallingford, Connecticut 06492